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ABSTRACT

In the locale of Hanford, California, this 1968 nutritional study was made to explore and evaluate the nutritional beliefs and food practices of Mexican American mothers among low-income agricultural working families. Some 35 mothers whose children attended the Hanford Child Day-Care Center were interviewed at home to determine family characteristics and food-buying and menu-planning practices. Open-ended questions provided information about dietary essentials and the mother's familiarity with the 4 basic daily foods. Results of the study are presented in the document in terms of grocery-buying and menu-planning, home food production and preservation, influence of Child Day-Care Center training, mother's 24-hour recall of her diet, a dietary questionnaire, and daily dietary essentials (folk beliefs, etc.). In summary, it is noted that (1) advanced planning of meals was not the rule, with the majority of mothers deciding on menus just before starting meal preparation; (2) approximately one-half of the families produced some type of food at home, and one-third preserved some food by canning; and (3) menu evaluation revealed deficiencies in milk, fruits, and vegetables. (AN)

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NUTRITIONAL BELIEFS AND FOOD PRACTICES OF MEXICAN-AMERICAN MOTHERS

by

Shirley Bowden

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CHAPTER I

INTRODUCTION

California has been called "the child of Spain" (1:3). To Spaniards of the sixteenth century must go honor for being the first white men to discover and explore the state's coastline. To the Franciscan mission builders who followed belongs credit for establishing a culture which prevailed in California until the mid-nineteenth century and which continues to influence life there today (1).

The history of Spanish-speaking people important in California's history must also include the Mexican-Americans, who now comprise about ten per cent of its population and who long have composed the majority of farm laborers in this, the nation's leading agricultural state (2, 3, 4, 5).

In view of the foregoing statements, it seems paradoxical to add that Mexican-Americans today constitute a major poverty group in California, a part of the "culturally disadvantaged" (6, 7). Their agricultural skills are needed less and less in an increasingly mechanized society (8, 9, 10, 11). Because they differ from the majority culture in language and other characteristics, relocation in business or industry may be difficult.

These cultural differences may spell problems in efforts to train or to educate the Mexican-American, much as they spell problems for his children in school (3, 12, 13).

Such considerations have made Mexican-Americans the focus of much activity initiated by the Economic Opportunity Act of 1964 for the purpose of improving their education, health, and general welfare. Nutritional study has been recognized as an indispensable part of the health program (14).

An example of current activity is the Child Day-Care Center of Hanford, California, locale of the present study. Mexican-Americans comprise about eighty per cent of the total enrollment. Such a facility may seek to improve the child's nutrition, not only through education, but by actual food supplements. Success in this endeavor may depend upon knowledge of the child's family, its food practices and nutritional beliefs. This understanding, in turn, involves study of the surrounding community and characteristics of the Mexican-American colony within it. As an American Home Economics publication states: "Before we as a profession can coordinate knowledge and effort for the benefit of today's families, we must understand the times and the circumstances of their lives" (15:59).

The Mexican-Americans of Hanford

By virtue of its central location in the agriculturally-rich San Joaquin Valley of California, Kings County is an area in which the migrant farm laborer may establish a semipermanent home. Within an hour's drive, the worker can reach many orchards, fields and vineyards in the adjoining counties of Fresno and Kern. A more extended trip will take him to truck farms bordering the Pacific Ocean. In the attempt to locate one family, this investigator questioned a neighbor regarding the family's obviously empty home. "They're over at Salinas working in the lettuce," the man answered.

During the winter, when there is little farm activity, the worker may find jobs in business and industry. The Hanford area's economy, once almost exclusively agricultural, now includes a major manufacturing plant as well as an oil refinery and various businesses (16, 17).

The city's total population of 14,279 includes 2,018 Mexican-Americans, 11,198 other Whites, 683 Negroes and 235 Orientals (16). Mexican-American homes are found in two distinct areas, both shared by many Negro families (18). The bulk of these families live directly south of the Hanford business district in an area bisected by the Southern Pacific tracks and by the new Lemoore freeway.

The section is indicated in green on the map (see Appendix). Another concentration of Mexican-Americans and Negroes is found in the Home Garden tract farther south, the pink area on the map.

The impression of poverty is immediate when one enters either area. Old frame buildings, long without paint or repair, house many of the families. The 1960 Census of Housing (19) indicated the situation: Of 650 homes whose owners had Spanish surnames, 311 were sound, 242 were deteriorated, and ninety-seven were judged dilapidated. While 570 of these homes had hot and cold water inside the structure, sixty-eight had only cold water, eight had only outside cold water, and four had no piped water (19).

Further evidence of poverty among the Mexican-Americans was provided during an interview with Kings County's Director of Public Welfare (20). He noted that while this nationality group makes up twenty-three per cent of the general county population, it accounts for sixty-eight per cent of Aid to Needy Children because of the parents' unemployment. A similar situation exists for Negroes who comprise five per cent of the county population and eighteen per cent of the case load. By contrast, Whites other than Mexican-Americans comprise sixty-five per cent of the county population but account for only nineteen per cent of the case load.

To what may one attribute the disproportionate number of Mexican-Americans among the unemployed? The Director of Public Welfare provided an answer: mechanization of farming. About seventy per cent of the county's cotton crop now is machine-picked, he observed, and this figure is expected to increase to from eighty to eighty-five per cent. More use of agricultural chemicals also has eliminated much labor for operations such as weeding (20).

In addition to poverty, the Mexican-Americans share many other aspects of culture. Native Mexican foods may be purchased in both south Hanford and Home Garden at several small grocery stores bearing Spanish names--Brieno's Grocery, Fernandez Grocery and Tortilla Factory, the Adobe Hacienda bakery and store. A common sight in both areas are trucks from such Mexican bakeries deliverying pan dulce, empanadas, and other native pastries.

The focal point of Mexican-American religious life and many social gatherings is the Immaculate Heart of Mary Church, Roman Catholic parish in south Hanford. Here El Día de la Virgen de Guadalupe, December 16, is marked with a pageant and parade. Other historical observances bring the colony together during the year and tend to reinforce native cultural patterns. El Cinco de Mayo, a national Mexican holiday, is celebrated annually. As described by one of the mothers in the study:

> They usually hold it there at Coe Park. They have speeches all about the history and music--mariachi. But the Sixteenth of September, everybody goes out and buys dresses. There's a program at the Civic Auditorium with music and dances. We used to make it a parade.

The two grammar schools of these areas are predominantly Mexican-American, again tending to strengthen cultural patterns. Both are sites of much recent activity in compensatory education. Not until junior high school are these children integrated with those of the whole community.

Health problems of the Mexican-Americans take many of them to the Kings County General Hospital for medical care (see map). Across the street is the Kings County Health Department, whose director is Dr. Thomas Preston (21). Asked about his department's relationship with the Mexican-Americans, Dr. Preston replied, "It's not good." The language difference creates problems, he observed. "We haven't one Spanish-speaking P.H.N. The language barrier, though, is partly a form of emotional hostility. The old folks often will not learn English, or, if they don't want to talk today, they can't speak English." Regarding this hostility, Dr. Preston termed it "an ethnic inferiority complex." He went on, "Recently, the Mexican-American feels that the colored person is getting all the attention under Civil Rights. Mexicans don't get their share of the federal jobs, etc."

Questioned concerning the Mexican-American's attitudes toward disease, Dr. Preston commented, "They just don't think in terms of prevention." Regarding immunization clinics, for example, he noted, "We're just not getting them. . . . Distance is one factor, but even urban families don't show up! They have excuses: 'No way to get there' or 'My husband had the car.'"

The Child Day-Care Center

Of particular importance to the Mexican-American community is the Child Day-Care Center at the county fairgrounds. The Center is administered by the Kings County Community Action Organization, an agency of the Office of Economic Opportunity. To qualify for care, family members, during the previous year, must have earned at least fifty per cent of their total income as agricultural employees, must have been employed only on a seasonal basis and not by one employer for the year, and must be classified either as "migrant farm workers" or "farm workers" (see Definitions of Terms). Family income must be below the poverty level (see Appendix).

Visits to the Center revealed many aspects of the nutrition program. Children arriving early in the morning were served a nutritious breakfast. A hot lunch and afternoon snack were also prepared. At lunch time, each group of five or six children sat with an adult aide at a small table. In addition to providing an example of desirable behavior, the adult had an opportunity to encourage the children in good food habits. The children, in turn, might influence others at home. Parents also might observe the food service directly during visits to the Center and receive further information from a staff member who made home calls (22).

CHAPTER II

THE PROBLEM AND DEFINITIONS OF TERMS USED

The Problem

Statement of the Problem

The purpose of this study is to explore and evaluate the nutritional beliefs and food practices of Mexican-American mothers.

Importance of the Study

Many would agree with the Office of Economic Opportunity's statement that "children of the poor . . . are often inadequately or improperly nourished" (14:1). But the poor are not a homogeneous group in regard to nutritional history. Among the children of the Child Day-Care Center, as with the students of any classroom, one may find cultural groups with different value systems and great variation in practice where diet is concerned. The teacher of nutrition cannot depend altogether upon replacing the old with the new, for traditional ways may be held tenaciously. Rather, improvement may lie only in some modification of the native patterns. This course demands that those in charge of nutrition education thoroughly understand the dietary histories of families they are attempting to help. If the mothers' food practices and nutritional beliefs are important factors in such histories, the present study may yield information which is of use in programs directed to Mexican-Americans.

Definitions of Terms Used

Mexican-American.--A Mexican-American is an individual having a Spanish surname whom the Child Day-Care Center Director judged to be one of this nationality group.

Poor or low-income.--Poor or low-income is defined as having an annual wage below the poverty level set by the Office of Economic Opportunity.

Migrant farm worker.--A migrant farm worker is a seasonal worker in agriculture or agriculturally related seasonal industry who finds jobs by moving each year to one or more work locations beyond normal commuting distance from a place he calls "home" (11).

Farm worker.--A farm worker is one working on a farm devoted to diversified agriculture, performing duties requiring knowledge of livestock and crops and maintenance of structures and equipment (11).

Dominant culture.--The dominant culture is the prevailing culture. In the United States, this is the white, middle-class, protestant culture.

CHAPTER III

REVIEW OF THE LITERATURE

A review of the literature reveals that only one study has been made concerning food practices of California's Mexican-Americans. Mann (24) has summarized the data obtained from many sources regarding food practices of this nationality group in Los Angeles County. She notes that, while the person recently arrived from Mexico may have food habits like those of the Mexican native, these habits, in time, may become increasingly American.

"The staple foods of Mexican-Americans on low or marginal incomes are beans and tortillas. . . . When money in available, a more varied diet is consumed, including meat, eggs, fruits and vegetables" (24:1). Enchiladas and tamales, though specialties of Mexican restaurants in this country, are not everyday fare but are reserved for holidays. More simply prepared stews, soups, rice and macaroni dishes are the common foods. Choice of meats is varied, and may include brains, tripe, liver and other organic meats. Milk is not readily available in Mexico, and hence may be used sparingly even in this country. Cheese is included more often. Chiles are commonly used as are other vegetables, when money is available. Salads are simple, usually composed of just lettuce and tomato. Popular cooked vegetables are:

> corn, potatoes, green beans, peas, and summer squash or zucchini. . . . The dark green and deep yellow varieties are used less frequently. However, spinach, sweet potatoes, and carrots are eaten in stews. . . . Fruits are liked, but their use is limited by the family budget (24:3).

Mexican-Americans have few native desserts, but may use American-style cakes, pies and pastries. Pan dulce, or Mexican sweet bread, may be purchased from the Mexican bakeries.

Mann suggests that the Mexican-American has many good food practices:

1. Use of dried beans as a meat alternate.
2. Use of tomatoes and chile peppers for vitamins A and C.
3. Use of cheese to increase intake of nutrients found in milk--calcium, riboflavin and protein.
4. Use of variety meats which are inexpensive.
5. Use of evaporated milk with cereals and in coffee.
6. Frequent use of eggs when income permits.
7. Limited use of desserts (24:3).

Improvement in the Mexican-American diet might result from the following:

1. Use of more enriched flour and cereal products.
2. More milk and cheese used by families.
3. Use of fewer carbonated beverages which crowd out milk.
4. Use of margarine instead of butter, especially when money is limited.
5. The inclusion of more dark green and deep yellow vegetables in the diet.
6. The inclusion of more vitamin C-rich fruits and vegetables in daily meals.
7. The use of fewer fried foods, doughnuts, cakes and pies when weight control is a problem (24:3).

Heller (23) and Lantz (25) have investigated food practices of Mexican-Americans of the Southwest. Heller's early work in New Mexico revealed this group to have a "fixed traditional dietary . . . limited to corn, beans, chile peppers, lard, flour, and coffee. Fruits and vegetables are not eaten in abundance, except in certain irrigated areas during the growing season" (23:49). Diets were low in calories, and protein was deficient both in quantity and quality, beans providing the major source. Dietary iron was high, though anemia was common. Calcium, vitamin A and ascorbic acid were deficient.

Lantz and Wood, in 1958, compared the diets of 178 New Mexico teenagers including 113 Spanish-Americans, 64 Anglos, and 1 Negro. Investigation of home production and preservation of food indicated that a higher percentage of the Spanish-Americans than of the Anglos produced part of the food they ate and preserved some food at home. Spanish-Americans drank only a little more than half as much milk as the Anglos, and included just half the amount of ascorbic acid-rich foods. Seven-day food intake records revealed that:

> The mean intakes of the Anglo subjects were significantly higher than those of the Spanish-Americans for energy, protein, fat, calcium, thiamine, and riboflavin. . . . Over sixty per cent of all the Spanish-Americans had less than two-thirds the recommended

> allowance of calcium. . . . Protein (largely supplied by beans) was low both quantitatively and qualitatively (25:144).

The findings generally were consistent with Heller's report (23).

Lantz and Woods (26) also reported on blood findings, height, weight, and physical condition of the two groups:

> Hemoglobin, volume of packed red cells (hematocrit reading), and red cell counts were significantly lower in the Spanish-American group, as were blood glucose, serum carotene, serum protein, and serum cholesterol. The Spanish-American boys and girls were shorter and lighter in weight than the Anglos of the same age (26:152).

The Spanish-Americans had a lower incidence of dental caries, however. This was of interest in view of a lower consumption of concentrated sweets reported by this group.

The study of Lantz and Woods was reviewed by Morgan (27) along with similar work of other researchers across the nation. "The nutrients most often found to be lower than the recommended amounts in the diets of children and adults in all four regions [of the United States] were vitamins A and C, calcium and iron" (27:6). Except for their reported high iron content, the Mexican-American diets apparently conform to Morgan's summary.

Though the literature includes many studies of nutritional status of various American groups, no other studies of Mexican-American diets appear. Delgado's study (28) in 1961 involved migrants, though these were thirty-five Negro families of a Florida labor camp. "The most significant findings were low consumption of milk and milk products, low consumption of green and yellow vegetables and low vitamin A content of the diet, low consumption of citrus fruits and low vitamin C content of the diet" (28:354). Consumption of protein was high, legumes constituting a major source. Dietary iron was consequently high. Starches, sweets and fats were in excess of recommended amounts.

Low-income families' diet practices and physical development of children was the subject of Hootman's investigation (29). In 1963, fifty-six Iowa children provided nutrition histories which did not disclose gross inadequacies in their diets, though only about half were judged excellent. In younger children, ascorbic acid was the only nutrient for which intakes were less than sixty-seven per cent of the recommended allowance. For the older children, nutrient intakes most frequently below sixty-seven per cent of recommendations were ascorbic acid, calcium and iron. The results, again, were consistent with studies of the general Iowa population and hence did not appear related to the subjects' low income.

Hampton's 1965 study with 122 California teenagers revealed "the most neglected nutrients were calcium and iron, particularly for the girls" (30:395). Nutritional knowledge, as evidenced by the subjects' ability to name the Basic Four food groups (31), appeared to result in improved food practices for the boys in the study, but not for the girls. In general, though, "those in the lower socioeconomic group tended to have lower intakes of nutrients than other boys and girls" (30:395). The statement is of interest in view of the low socioeconomic level of many Mexican-American families (20).

Dierks and Morse's study (32) in 1964 involved 115 Minnesota preschool children from well-educated parents who were currently enrolled in the university. These children had intakes of calories, protein, iron, vitamin A, thiamine, riboflavin, and ascorbic acid which met or exceeded 1959 recommendations. Researchers also judged niacin to be adequate in view of the diet's high protein content. Iron intakes, however, were below the recommended allowances released in 1964.

Food beliefs among low income families of the Washington, D.C., area were studied by Cornely and coworkers during 1958 to 1961. A total of 310 Negro families and 98 white families were included. Both groups had "insufficient information about the essentials of an adequate diet"

(33:134). Negro families demonstrated faith in a number of erroneous folk beliefs. Both Negro and White families were deficient in their knowledge concerning the Basic Four food groups. Only the fruit-vegetable group was mentioned by a majority of respondents. Many Negro subjects mentioned pork as a harmful food.

Morse and her coworkers (34) tested 238 Vermont mothers for their nutrition knowledge in relation to their education, occupation, and the nutritional status of their children. "The higher the level of education, the better was the knowledge of nutrition" (34:668). Further, a course in nutrition was directly beneficial to the test score without being related to the level of higher education. Plasma ascorbic acid and carotene levels in the boys, and plasma ascorbic acid in the girls, were directly related to their mothers' test scores.

In the studies reviewed, there appears remarkable consistency in reports of deficiencies of iron, calcium, vitamin A and vitamin C, particularly among those of low socioeconomic groups. Mexican-Americans conform in their dietary lack of calcium, vitamin A and vitamin C. Though their diets have been reported high in iron, anemia has been observed frequently.

Other aspects of the health of Mexican-Americans have been the subject of several writers. Saunders comments that while there are "no satisfactory sources of information on the health of the total Spanish-speaking population" (35:76), many workers have reported under-nourishment, a high infant mortality rate, and a greater prevalence of some infectious and contagious diseases in this group. He reviews one study of migrant families, mostly Mexican-American, in which findings included "serious health problems, but very little health care; a diet lacking in meat, vegetables and milk; little contact with medical personnel during the previous year, and a low level of immunization" (35:77).

Mexican attitudes toward modern medicine were analyzed by Humphrey (36) in a 1945 study of Detroit Mexicans. He noted that:

> In addition to notions of supernatural cures for physical ailments, there are usually conceptions of doubt as to the efficacy of scientific treatment. . . . Mexican peasants possess a culturally-conditioned faith in some cure based on the mystical character of illness. . . . Old health practices persist in large degree because they tend not to be grounded empirically, but lie in the area of faith and belief, in short, in the realm of values (36:256).

Important to these traditional health practices is the curandera, Romano writes (37). "A specialist in the diagnosis and treatment of folk syndromes" (37:163), the curandera may have influence over a very small circle of followers, or may have influence transcending communal boundaries and affecting many hundreds of people. Clark (38) also comments upon the role of the curandera.

The concept of "hot and cold" as a condition of health is also important in Mexican tradition, according to Saunders (35), Clark (38), and Madsen (39). Saunders explains that "illnesses are classified as hot and cold, without respect to the presence of fever, and the correct therapy is to attain a balance of treating 'hot' diseases with 'cold' remedies, and 'cold' diseases with 'hot' remedies" (35:147). Clark notes that while great importance is attached to proper hot and cold foods during pregnancy and lactation, few Mexicans can agree regarding the category to which many foods belong.

Several authors have stressed various public health problems among Mexican-American farm workers. Merrill (6), Solis (7), Schafer (10), Lee (40), and Jessup (41) have written of poor housing conditions, lack of field sanitation, occupational health hazards, and workers' distance from health services.

Jessup (41) reviews current health programs which include Fresno County's West Valley Clinics, an attempt to take medical care closer to the worker. Such clinics are also described in California State Department of Health publications (9, 10). One writer quotes recommendations of a governor's committee for "increased health education, emphasizing nutrition education" (9:1). Decentralization of medical services, removal of residency requirements for medical care, and a statewide program for such care have been other recommendations (10). Similar proposals came from reports at a California conference on migrant problems (5). In spite of such changes, public health problems might persist among Mexican-Americans because of their reluctance to take advantage of even readily available services, according to the Kings County Public Health Director's comments reviewed in a previous chapter.

A preliminary study (42) was conducted during January, 1958, for the purpose of determining food beliefs among Mexican-American mothers of the Day-Care Center. Results of interviews with ten mothers indicated their acceptance of many statements of food fallacies included in Cornely's study (33). Subjects were only slightly more successful at recognizing true statements regarding the Basic Four food groups. They showed fair ability to name types of food which were healthful for the family, but demonstrated some misconceptions in naming foods they considered harmful.

CHAPTER IV

POPULATION AND PROCEDURE

In an interview with the Child Development Services Director, Kings County Community Action Organization, the investigator obtained this agency's consent to conduct a study among the Mexican-American families of the Child Day-Care Center, Hanford, California, during March and April, 1968.

The Director of the Center provided a list of forty-nine participating families, of whom thirty-nine were identified by him as Mexican-Americans. Preliminary attempts to contact the families revealed that four had recently moved from the community. Mothers of the remaining thirty-five families comprised the population.

When contacted during a call at the home, each mother agreed to participate and set a time for the interview. Five of the home interviews were conducted in Spanish and thirty, in English. All were tape-recorded.

The first section of the interview schedule (see Appendix) revealed the following family characteristics of the population:

Characteristics of the Population

Marital Status

In thirty-one families, parents were married and living in the same household. In four families, the father was absent (Table 1).

TABLE 1

MARITAL STATUS OF MOTHERS

Status	Number of Families N=35
Married	31
Separated	2
Divorced	2

Age

Mothers ranged in age from nineteen to forty-eight years, with a median age of 29.3 years. The thirty-one fathers who were living at home ranged in age from twenty-three to sixty-five years, with a median age of 34.6 years (Table 2).

Occupations

About half of the mothers gave the father's occupation as farm laborer, though some commented that there was

TABLE 2

AGE OF PARENTS

Age Group	Mothers N=35	Fathers N=31
20 years and under	3	0
21 to 25 years	8	3
26 to 30 years	8	8
31 50 35 years	8	5
36 to 40 years	4	6
41 to 50 years	4	6
Over 50 years	0	3

little work now, during the winter. Two were in job training programs, and one worked as a counselor in such a program. Others were employed in local businesses and industries (Table 3). Personal data were not obtained for the four fathers not living with their families.

TABLE 3

OCCUPATIONS OF PARENTS

Type	Mothers N=35	Fathers N=31
Housewife	25	0
Farm laborer	0	15
Part-time student	4	2
Business or industrial	5	12
Other employment	1	1
Unemployed	0	2

About two-thirds of the mothers gave their occupation as housewife. Four said they were housewives but attended school part-time. Others were employed at jobs which included grocery checker, nursing home housekeeper, laundry worker, teacher's aide, school cook and school yard attendant (Table 3).

Several mothers indicated that the coming summer would find the older children, the fathers, and themselves working in the fields, provided care of the small children could be arranged. The fathers now unemployed might find work then, and even some of the employed men might forsake their present jobs to take up farm labor, apparently. Such work seemed to be a pleasurable prospect for them. The reports recalled a statement of the Director of the Kings County Community Action Organization describing these Mexican-American families as people naturally inclined toward a rural, agricultural life but now forced to find supplementary employment in urban areas (11).

Parents' Birthplace

Approximately fifty per cent of both the fathers and the mothers were born in California, though Texas was the birthplace of many (Table 4).

In twelve families, one of the parents was born in Mexico and in one family, both parents were born there.

TABLE 4

PARENTS' PLACE OF BIRTH

Area	Mothers N=35	Fathers N=31
Mexico	7	7
California	15	14
Texas	11	9
New Mexico	1	0
Oregon	1	0
Colorado	0	1

The influence of native Mexican food practices might be particularly strong in these homes, according to Mann (24).

Parents' Education

Approximately one-fifth of the fathers living at home had no schooling, while the longest school attendance was reported by one who had finished the twelfth grade (Table 5). Six was the mean number of school years completed by the men.

For the mothers, one year was the shortest period of school attendance, and twelve years, the longest. The mean number of school years completed by the women was 6.9.

The parents' generally low level of education seemed highly significant in view of Cornely's statement that education of the respondent was "closely related to rejection of folk beliefs" (33:132) and Morse's report

TABLE 5

EDUCATION OF PARENTS

Years of School Completed	Mothers N=35	Fathers N=31
None	0	6
1 to 3	5	3
4 to 6	9	5
7 to 9	15	11
10 to 12	6	6

that "the higher the level of education, the better was the knowledge of nutrition" (34:667).

Family Size

The mean number of children living in the home was 4.8 (Table 6).

Four families also had a married son or daughter, and one family had two. Three mothers reported that three of their children were no longer living; two mothers, two children, and eight mothers, one child. How many of these represented prenatal deaths was not determined.

In regard to the size of their families, the mothers conformed to Jessup's description of migrant workers: "The families are large, averaging five to seven persons" (41:1). This fact, combined with the generally poor housing situation discussed earlier, would seem to have

TABLE 6

SIZE OF FAMILIES

Number of Children Living at Home	Number of Times Mentioned N=35
1	2
2	5
3	6
4	7
5	3
6	2
7	4
8	3
9	1
10	1
12	1

implications for the families' health.

Income

The mean monthly wage was $221 per family. The range was from $210 to $500. In twenty-two families, only the father was the wage earner; in three families, only the mother. Both parents were wage earners in one family, and eight families had earned no wages recently. One mother could not estimate the family income.

Welfare payments contributed to the incomes of all but nine families. The mean monthly income from welfare was $208. The range was from $102 to $404. There appeared to be considerable doubt in the minds of many mothers regarding average wages and welfare receipts. Many reports appeared to be only guesswork and averages reported here may be unreliable. The total of earned income and welfare receipts for all families was within the Office of Economic Opportunity Poverty Guidelines, however, according to more exacting determinations of interviewers who had qualified them for participation in the Child Day-Care Center (see Appendix).

The families' low income level is an important consideration in this study, in view of the tendency of "those in the lower socioeconomic level to have lower mean intake of nutrients," as reported by Hampton (30:391).

Nutritional Beliefs and Food Practices

The next section of the interview schedule involved food buying and menu planning practices.

The mother later was asked to recall her own intake of foods and beverages during the last twenty-four hours. Following this was a cross-check questionnaire, as suggested by Burke (43). The menus were evaluated according to the method proposed by Mann (24).

In addition to questions regarding the frequency of each item in her diet, the mother was asked about her usual means of preparation, and whether or not she thought the food was "good for you" and why.

The following section of the interview was patterned after Hampton's open-ended question, "What foods should be eaten every day for health?" (30:395). In addition to the daily dietary essentials for herself, the mother was asked what foods were required daily by a pregnant woman, by a lactating woman, and by a child. Answers were rated by the number of the four food groups (31) mentioned. In the discussion regarding diet in pregnancy, two questions sought to determine the mother's familiarity with the concept of "hot and cold" foods and her acceptance of the practice of "eating for two" during pregnancy.

The final section of the interview schedule concerned the mother's familiarity with the Basic Four daily food guide or the Spanish language version, Una Guia para Comer Bien (44). The investigator asked the mother's opinion of this guide as a practical aid to her own menu planning.

Results will be presented and discussed in the next chapter.

CHAPTER V

RESULTS AND DISCUSSION

The results of questions concerning nutritional beliefs and food practices will be presented in the following seven major categories: Grocery Buying and Menu Planning; Home Food Production and Preservation; Influence of Child Day-Care Center Training; Mother's Twenty-four Hour Recall of Her Diet; The Dietary Questionnaire; Daily Dietary Essentials, and The Basic Four Daily Food Guide.

Grocery Buying and Menu Planning

Place of Food Purchases

Approximately two-thirds of the mothers did all of their shopping at the supermarket or traded there for all foods except milk, which was home delivered (Table 7). Ten bought the majority of items at the supermarket, but traded also at small neighborhood stores. Only one traded exclusively at the neighborhood stores.

That two-thirds of the mothers consolidated their grocery shopping at supermarkets of the main Hanford business district was an indication of wise buying practices. This was true in spite of the proximity of several small neighborhood stores catering to Mexican families, as mentioned earlier.

TABLE 7

PLACE OF FOOD PURCHASES

Place of Purchases	Number of Times Mentioned N=35
Supermarket only	21
Supermarket and creamery	3
Supermarket and neighborhood store	10
Neighborhood store only	1

Cash and Credit Buying

Cash buying was the rule for all but six of the families, a finding related to the tendency toward supermarket buying (Table 8).

TABLE 8

DISTRIBUTION OF CASH AND CREDIT PURCHASES

Type of Buying	Number of Times Mentioned N=35
Cash purchases only	29
All cash purchases except milk	3
Combined cash and credit purchases for all groceries	2
Credit purchases only, including home-delivered milk	1

The three families who only charged their milk would have paid the slightly higher price normally charged for the home-delivery, though this service may have been a good investment where poor refrigerator facilities made milk storage difficult.

All purchasing of general food supplies on credit occurred at the small neighborhood stores. That poor money management may result from such buying was suggested by the statement of the mother who charged all groceries: "I pay forty-five dollars every two weeks on the groceries and five dollars on the milk bill." This schedule was followed irrespective of the amount owed, apparently.

For the majority, though, the predominance of cash buying seemed another indication of good money management.

Expenditures for Groceries

The mean weekly expenditure for groceries was thirty-two dollars (Table 9). Individual expenditures ranged from fifteen dollars, reported by a couple with four children, to fifty dollars, reported by a couple with nine children. There would seem real cause for concern over the adequacy of the minimum budgets in providing optimum family nutrition.

TABLE 9

WEEKLY EXPENDITURES FOR GROCERIES

Amount Spent	Number of Times Mentioned N=35
Less than $20	4
$20 to $25	7
$26 to $30	8
$31 to $35	7
$36 to $40	6
$41 to $45	2
$46 to $50	1

Frequency of Trips to the Grocery Store

The number of trips to the grocery store ranged from "once every two weeks" to twice daily (Table 10). The mean number of trips per week was 3.1.

TABLE 10

FREQUENCY OF TRIPS TO THE GROCERY STORE

Frequency	Number of Times Mentioned N=35
Twice daily	1
Once daily	5
Three or four times weekly	9
Twice weekly	9
Once weekly	10
Less than once weekly	2

The fact that almost half of the subjects shopped three or four times weekly or oftener appeared inconsistent with well-planned food buying. Later, questions regarding between-meal snacks seemed to indicate that the parents' impromptu visits to the store for such items as "a soda or an ice cream" might account for many of the trips. The investigator believed that lack of adequate refrigeration might explain such frequent shopping for refrigerated or frozen items.

Method of Menu Planning

Advanced planning of menus apparently was not a practice of the mothers, thirty of whom either decided the menu just before the meal or let the children decide (Table 11). Only slightly more forethought was demonstrated by the four who "decided early in the morning" or the day before. The one mother who said she wrote menus did so only one day in advance.

If it can be assumed that best use of the food dollar results from planning of menus for several days or a week in advance, the failure of all the mothers to do such planning may be a cause for concern. There was some evidence that lack of advanced planning encouraged menus consisting mainly of such staples as beans, rice, and flour pastes, as discussed in a later section. Such a

TABLE 11

METHOD OF MENU PLANNING

Method	Number of Times Mentioned N=35
Decide "just before the meal"	21
Let the children decide	4
Combination of the above methods	5
Decide early in the morning or day before	4
Write menus in advance	1

restricted diet would be consistent with Heller's report of the Spanish-American diet "limited to corn, beans, chile peppers, lard, flour, and coffee" (23:49).

Family Food Problems

When asked what was the greatest problem in feeding the family, sixteen mothers replied that they had no problems. A typical comment was, "They're all good eaters" or "They eat everything." Four suggested that lack of money was the greatest problem, explaining, "When I don't have the money, I don't know what to do" or "Sometimes I don't have enough."

Six women believed that unpredictable family appetites and refusal of food were major problems. Explanations included "fixing something they don't like" and "leaving food." Poor acceptance of vegetables was mentioned by two mothers.

One woman suggested the problem of keeping sufficient stocks of food, explaining, "The flour goes fast." Another had the two-fold problem of "money, and what to cook." For one mother, "getting them together for meals" was difficult, while another described the problem of rushing meals. One mentioned the children's table behavior. There was some disagreement when a mother suggested her greatest problem was that "Some kids like this, some that," while the husband interrupted: "Having the money!"

Home Entertaining

Mothers were asked how often they had company and what they might serve to guests. Five said that the family had company daily, though the guests often included relatives. One mother explained, "If they're here at mealtime, I feed them all. In between, coffee, Kool-Aid or tea, and always doughnuts. They always eat something." Two of the other mothers in this group mentioned Mexican sweet bread (pan dulce) served with coffee. Another usually served some type of "cake with milk, Kool-Aid, or a soda." One said she usually served only coffee.

At the other extreme were twelve mothers who stated that they had company "almost never" or "once in a long time." The refreshments mentioned most frequently were sweet bread, cake, or cookies served with a beverage such as coffee, tea, or punch. One mother in this group said she might serve tacos. Another said she had guests only on holidays and usually would give them a "good-bye meal," including chicken.

Home Food Production and Preservation

Food Production

Fourteen of the families produced some type of food at home. Eight varieties of fruits and twelve varieties of vegetables were included, as well as beef, eggs, milk, and walnuts (Table 12).

The fruits most often mentioned were apricots and peaches, both varieties grown commercially in the area. The most popular vegetables in the home gardens were tomatoes, onions, and peppers which, interestingly, are the ingredients of "salsa," a thin hot sauce served over many foods.

Production of protein foods was limited, with only one family raising beef and only two, eggs. The family which owned a cow apparently used the unpasteurized milk.

Two families each produced seven different fruits and vegetables, the highest number of varieties reported.

TABLE 12

HOME FOOD PRODUCTION

Item	Number of Times Mentioned N=35
Fruits	
Apricots	4
Avocados	1
Cactus pears	1
Figs	1
Grapes	2
Melons	2
Peaches	4
Plums	1
Vegetables	
Beans, green	1
Carrots	1
Chard	2
Corn	1
Cucumbers	1
Lettuce	1
Onions	7
Peppers	6
Radishes	4
Squash	2
Tomatoes	8
Turnips	1
Other	
Beef	1
Eggs	2
Milk	1
Nuts	5

Food Preservation

Fourteen of the families preserved some type of food at home, though these were not necessarily the same who produced foods. Nine who had reported producing food said that they attempted no type of preservation. Eight who canned foods engaged in no food production, though some of these explained that they received gifts of fruits and vegetables not only from family and friends but from employers during the harvest.

The family which did the most food preservation canned five varieties of fruits and vegetables and also froze corn. It seemed noteworthy that corn was the only item preserved by freezing, and this was reported by only three families (Table 13). Peaches, apricots, tomatoes, and corn were the fruits and vegetables preserved by the most families.

The quantity of food preserved was not determined; hence, it is difficult to judge what contribution the foods would make to year-round menus. Neither is the extent of food production and preservation among other ethnic groups of the area known. Nevertheless, it seemed that these Mexican-American families reported a considerable degree of such activity. Lantz has reported that her Spanish-American subjects produced and preserved more

TABLE 13

HOME FOOD PRESERVATION

Item and Method	Number of Times Mentioned N=35
Apples--canning	1
Apricots--canning	7
Beans, green--canning	2
Cactus leaves--canning	3
Corn--freezing	3
Hot sauce--canning	1
Jams and jellies	3
Peaches--canning	11
Peppers--canning	1
Tomatoes--canning	7

food than the Anglos, though freezing was not a common practice with the Spanish-Americans (25).

Influence of Child Day-Care Center Training

The mothers were asked to suggest any ways in which training at the Center had influenced the eating habits of the child and of the family as a whole. Answers were difficult to interpret in that the women had varying degrees of contact with the Center. Six said they had "barely gotten started" and five others had never attended consistently. Thirteen said they had observed changes in their children's eating habits.

Five suggested that their children had learned to know and accept certain new foods. All of these mentioned some type of vegetable. One mother stated that her child had learned to eat "raw vegetables--broccoli and cauliflower." Another mentioned "tuna loaf, beets, and liver." One reported, "I used to try to give him vegetables. After being there, he ate everything." Another recalled, "He learned to eat part of his vegetables." One had just explained, "He learned a lot of different foods--salads and crunchy things, new smells," when her four-year old son added, "Celery!"

One mother said her child had become acquainted with "American" food, and, in fact, "got to like the school food better [than the food at home.]" Two suggested general changes, reporting, "He's eating now, but wasn't before" and, "They were eating better there."

Four mentioned that their children had adopted other mealtime practices of the Center. Three said that their children had "learned to pray." Two mentioned that children learned to wash their hands before meals. One child had learned to "use a fork and spoon" and another had "made friends" at mealtime.

That over one-third of the mothers could suggest definite changes in the child's eating behavior as a result of the Center's training seemed good evidence of the effectiveness of such a nutrition program with children.

Three mothers reported ways in which this training had changed the eating habits of the entire family. One woman, a former Day-Care Center aide, said she had "learned to follow a recipe." Two others said the family had accepted new foods, including "more American" types, which had been introduced at the Center.

Mother's Twenty-four Hour Recall of Her Diet

The mother's recall of her intake of foods and beverages during the previous twenty-four hours was used to indicate her typical food pattern (Table 14). Each menu was classified into the Basic Four food groups in the method suggested by Mann (24).

Milk and Cheese

Ten mothers had consumed no milk. Amounts ranged up to two and one-half cups, with a median of 0.8 cups.

Results are in agreement with reports of Mann (24) and Lantz (25) regarding low consumption of milk by many Spanish-Americans.

Only six of the mothers reported cheese in their daily menus, though it is possible that some had failed to mention dishes combining cheese and other foods.

TABLE 14

SUMMARY OF EVALUATION OF FOODS EATEN DAILY FROM THE FOUR FOOD GROUPS

Mothers N=35	Number of Servings					
	Milk Group	Meat Group	Fruit and Vegetable Group			Bread and Cereal Group
			Citrus, Tomato, Other Ascorbic Acid-Rich	Green leafy, Yellow, Other Vitamin A-Rich	Potatoes and Others	
1	0.5	0.5	0.5	.0	1.5	3.0
2	0.5	2.5	1.0	1.0	1.0	7.0
3	1.0	1.5	.0	0.5	0.5	7.0
4	.0	1.5	.0	.0	.0	8.0
5	.0	3.0	.0	.0	.0	3.0
6	.0	2.5	.0	.0	4.0	10.0
7	1.3	3.0	.0	0.5	1.5	4.0
8	2.0	3.0	.0	0.5	1.5	6.0
9	1.0	2.0	1.0	.0	2.0	4.0
10	1.3	1.5	0.5	.0	1.0	6.0
11	2.0	3.5	1.0	1.0	1.0	7.0
12	0.5	2.5	0.5	.0	3.5	9.0
13	0.5	2.0	0.5	.0	4.0	10.5
14	0.5	3.5	0.5	.0	.0	8.0
15	.0	1.5	0.5	1.0	2.0	4.0
16	1.0	2.5	.0	0.5	1.5	6.0
17	.0	3.0	.0	.0	1.0	8.0
18	2.5	2.5	1.5	.0	1.0	7.0
19	1.3	3.5	.0	.0	1.0	9.0
20	2.0	1.5	0.5	.0	0.5	6.0

21	0.3	2.5	0.5	.0	.0	4.0
22	.0	2.0	.0	0.5	0.5	8.0
23	1.0	1.5	0.5	.0	.0	5.0
24	1.0	2.0	1.0	.0	2.0	4.0
25	1.0	2.0	0.5	.0	1.5	5.0
26	2.0	2.5	.0	.0	.0	9.0
27	1.0	4.5	.0	.0	1.0	10.0
28	.0	4.0	1.0	0.5	4.0	5.0
29	1.5	3.0	1.0	.0	1.0	15.0
30	.0	2.5	1.0	2.0	2.0	7.0
31	2.0	4.0	.0	.0	.0	5.0
32	.0	0.5	.0	.0	1.0	4.0
33	.0	1.5	.0	.0	1.0	4.0
34	1.0	2.0	.0	.0	1.0	4.0
35	0.3	2.5	.0	.0	2.0	8.0
Average	0.8	2.4	0.4	0.2	1.3	6.5
Range	.0 to 2.5	0.5 to 4.5	.0 to 1.5	.0 to 2.0	.0 to 4.0	3.0 to 15.0

Mann has reported that "cheese is used more often than milk" (24:1) by the Mexican-Americans, though Lantz reports that her Anglo subjects "had roughly twice as much ice cream and cheese" as the Spanish-Americans (25:139). Likewise, Heller reports that "meat, eggs, milk and cheese are not used extensively [by the Spanish-Americans]" (23:50).

Meats

Number of servings from the meat group ranged from 0.5 to 4.5. The median number of servings was 2.4. Included in this group was a total of twenty-six servings of beans. Though Mann terms the "use of dried beans as a meat alternate" (24:3) one of the good practices of Mexican-Americans, Lantz found that common usage of vegetable-protein sources accounted for both qualitative and quantitative protein deficiency in the Spanish-American diets (25).

Fruits and Vegetables

No servings of ascorbic acid-rich fruits and vegetables were present in the diets of seventeen mothers. The highest number of servings reported was 1.5, and the mean was 0.4 servings. Chile peppers and chile sauce in the menus were included in this group and evaluated as suggested by Mann (24). Certainly Mann's recommendation for "the inclusion of more vitamin C-rich fruits and vegetables in daily meals" (24:3) is appropriate for these women as well as for Lantz' Spanish-Americans (25).

Mean number of servings of vitamin A-rich fruits and vegetables was 0.2. Twenty-five mothers reported no food from this group, while two servings was the highest amount consumed. Mann's recommendation for "the inclusion of more dark green and deep yellow vegetables in the diet" (24:3) would apply to these women. Lantz (25) also notes that the Spanish-American subjects not only had lower vitamin A intakes than the Anglos but relied more upon vegetable sources.

Seven mothers consumed no servings of other fruits and vegetables, including potatoes. The highest number of servings reported was four. The mean of 1.3 servings was well below the two servings from this group recommended daily, though it was approximately twice the mean number of servings from the vitamin A-rich and vitamin C-rich varieties combined.

Breads and Cereals

Only in their consumption of foods from the bread-cereal group did the mothers' mean servings equal the recommended minimum. The mean number of servings was 6.5. Extremely high consumption was represented by one woman who consumed fifteen servings and three others who consumed ten or more servings. Fortunately, the brand of flour popular with Mexican-Americans of the area is enriched. This may give these families a considerable nutritional advantage over those in Mann's area where "use of more enriched flour and cereal products" was a recommendation (24).

In summary, the mothers' twenty-four hour diet records conformed to reports of other investigators (23, 24, 25) regarding low intakes of milk, vitamin A-rich and vitamin C-rich fruits and vegetables among Spanish-Americans. Animal protein foods may be low for the Hanford women, as they were for Lantz' and Heller's Spanish-Americans. Breads and cereals were used liberally by the Hanford mothers, as they were with all of Lantz' groups.

It was interesting to note that the mothers' meals were sometimes "American" in character and, at other times, typically Mexican. Breakfasts tended to follow the usual American pattern of cereal and/or egg, toast with margarine, coffee, and sometimes fruit or juice. Lunch might consist of a sandwich; but many lunches and virtually all of the evening meals included native Mexican foods such as tortillas, beans, rice and macaroni dishes. Simple soups and stews were also common, a finding in agreement with Mann's statement that such easily-prepared dishes are the daily fare; while tamales, enchiladas, and other dishes requiring much preparation time are reserved for "holidays or other special occasions" (24:1).

Following the mother's statement of her menu, she was asked whether she currently took any vitamin or mineral supplements. Twenty-five said that they took no supplement. Four took a multivitamin tablet daily. Four took "iron pills" though one of these added "off and on" and another amended her statement with "I'm supposed to." One took a cod liver oil capsule daily. The mothers who did not take any vitamins or minerals were not asked whether they considered such supplements to be essential to good nutrition. An earlier study by the investigator revealed that seven of ten Mexican-American mothers agreed with the erroneous statement, "It is necessary for a family to take vitamin pills in order to be well-nourished" (42).

The Dietary Questionnaire

Fruits and Vegetables

The mothers reported the frequency of their consumption of several classes of fruits and vegetables as well as two individual varieties, potatoes and chile peppers, which were of particular interest to the investigator (Table 15).

Certain items were consumed as often as three times daily, while other major classes, such as the dark green leafy and yellow fruits and vegetables or citrus fruits and tomatoes, were never consumed by some mothers.

The women also mentioned one or more varieties of each item or class which they consumed most often (Table 16).

Citrus fruits and tomatoes.--Consumption of these vitamin C-rich foods ranged from once daily, reported by fourteen mothers, to "never," reported by one (Table 15).

Though less than half of the women had a serving of this group daily, the frequency of consumption indicated in this dietary questionnaire was slightly greater than what was suggested by the twenty-four hour menus. Also to be considered were chile peppers and other good sources of ascorbic acid among native Mexican foods (24).

The varieties consumed most often were orange juice, fresh tomatoes, and oranges, in that order (Table 16). The interviewing was conducted during the winter and early spring, however, and some comments indicated that tomatoes would be used in much greater quantity during the summer. Many of the home-gardens included tomatoes, as already noted.

TABLE 15

FREQUENCY OF CONSUMPTION OF FRUITS AND VEGETABLES

Food Item	Frequency of Consumption N=35						
	Three Times Daily	Twice Daily	Once Daily	Three or Four Times Weekly	Once or Twice Weekly	One to Three Times Monthly	Never
Citrus fruits and tomatoes	0	0	14	8	12	0	1
Other fruits	1	1	7	7	13	3	3
Other juices	1	1	9	12	7	0	5
Chile peppers	5	3	11	2	6	1	7
Potatoes	0	1	18	13	2	0	1
Dark green leafy, yellow fruits and vegetables	0	0	4	8	11	11	1
Other vegetables	0	10	10	6	5	4	0

TABLE 16

MAJOR VARIETIES OF FRUITS AND VEGETABLES EATEN

Food Item	Number of Times Mentioned*
Vitamin C-rich:	
Orange juice	18
Fresh tomatoes	10
Oranges	8
Other fruits:	
Bananas	20
Apples	15
Other juices:	
Pineapple juice	10
Orange-pineapple juice	3
Apple juice	2
Chiles:	
Fresh green	17
Dried	5
Pickled	4
Potatoes, style:	
Mashed	24
Fried	23
Boiled	2
Vitamin A-rich:	
Spinach	15
Carrots	14
Broccoli	6
Other vegetables, raw:	
Lettuce and tomato salad	10
Lettuce	7
Cabbage	6

TABLE 16--Continued

Food Item	Number of Times Mentioned*
Other vegetables, cooked:	
Cabbage	8
Peas	7
Green beans	7

*The N in this case is not 35. Only those consuming the item with some degree of frequency were included. Also, where two or three varieties were named by a subject, all were tabulated. The same applies for all tables in which major varieties are mentioned.

All of the mothers agreed that citrus fruits and juices, tomatoes and tomato juice were "good for you." Eleven explained that these contained "vitamins," one thought they contained "all the vitamins," and three said that they contained vitamin C. Six could not explain why they were good. Some of the other explanations were: "Tomatoes are as healthful as fruit." "I just think it's good." "They give you strength." "They taste good." "They have proteins." "It's something to eat between meals."

Chile peppers.--Consumption of this ascorbic acid-rich vegetable ranged from three times daily, reported by five mothers, to "never," reported by seven (Table 15). About a third of the women used peppers once daily.

Though dried peppers do not provide the vitamin C, it was the fresh green peppers which about half of the women used most often (Table 16). The quantity consumed per meal was sometimes small, however. The green peppers usually were mashed and combined with tomato and onion to make "salsa," and some mothers reported using "just a few teaspoonsful" of this over other foods at a meal.

In spite of their popularity, chiles apparently were not appreciated for their nutritive value. Sixteen mothers said that chiles were not "good for you." Three could not explain why. Another three said chiles were "bad for the stomach" and two mentioned "heartburn." A possible folk belief was suggested when two mothers suggested that the small seeds could collect in the appendix, causing appendicitis. Interestingly, one of the fathers who entered into the conversation ascribed the same harmful effects to banana seeds. Other reasons why chiles were not "good for you" included: "It can get in the liver." "They're too hot." "They hurt my eyes." "They make me sick to my stomach."

Fourteen did not know whether chiles were "good for you" or not. Of the six who thought chiles were healthful, three explained that they improved one's appetite, one thought they were good because she liked them, and two could give no reason.

Mann (24) has reported that chiles are an important vegetable in the Mexican-American diet, used to season many dishes including meat, eggs, rice, potatoes, soups, stews, and vegetables. "Small amounts of chile eaten in several dishes during the day may add enough vitamin C to prevent a deficiency of this nutrient," she notes (24:9). Harmful effects which Clark's (38) subjects ascribed to the chile pepper are reviewed in a later section.

Potatoes.--Though not popularly associated with the Mexican-American diet, potatoes were used frequently (Table 15). Over half of the mothers had them at least once daily. Only one woman never ate them, and she was following a diabetic diet.

When asked how they usually prepared potatoes, the mothers often replied "mashed . . . and fried" (Table 16). The popularity of mashed potatoes was suggested again when mothers reported their use of milk in preparing them.

The question of whether or not potatoes were "good for you" revealed an interesting diversity of opinion. The word "starch" was often mentioned to explain both healthful and unhealthful properties. Twenty mothers said that potatoes were "good for you" and four of these explained that potatoes contained starch. Three thought they contained vitamins. Two others thought that they were "good for you," though "fattening." Eleven could not explain.

The three who did not believe potatoes were "good for you" all explained that they contained starch.

Dark green leafy and yellow vegetables.--About a third of the mothers had a serving of the dark green leafy vegetables or dark yellow vegetables and fruits at least three or four times weekly. At the other extreme were one third of the women who had them less than once weekly or never ate them (Table 15).

Spinach and carrots were the varieties used most often (Table 16). Six mothers mentioned that they kept carrots on hand because the children often ate them raw for snacks, and one of these said the children just "pulled them up out of the garden" and ate them.

All of the women agreed that these fruits and vegetables were "good for you." Thirteen could suggest no reason. Though none mentioned a specific nutrient, one woman reported, "My mother-in-law gave them to me when my eyes were weak." Seven said that they contained vitamins, and two thought they contained vitamins and minerals. Other women gave general explanations such as "I feel better when I eat them," or "They're part of the vegetables."

Other vegetables.--Consumption of other vegetables, both raw and cooked, ranged from twice daily, reported by ten women, to less than once weekly, reported by four (Table 15).

"Lettuce and tomato" were mentioned most often as the vegetables usually eaten raw (Table 16). This was in agreement with Mann's statement that "vegetables used in salads are limited primarily to tomatoes and lettuce" (24:2). The most popular cooked variety was cabbage which also was mentioned among the raw vegetables. Peas and green beans, mentioned by Mann as popular vegetables, were named by several mothers.

All of the women agreed that the "other vegetables" were "good for you." Eight could not explain their answer. Nine said that these vegetables contained vitamins, and one woman added, "especially carrots." One mother began, "Well, carrots for the teeth," and her ten-year-old son interrupted, "No, for the eyes!" Others offered general explanations such as: "Everybody needs vegetables." "They give you strength." "They're more healthy than anything." "Your body needs something in vegetables."

Other fruits.--Consumption of other fruits ranged from three times daily, reported by one, to "never," reported by three mothers. The largest group of women had these fruits once or twice weekly (Table 15).

Bananas and apples, the fresh fruits in Hanford markets during the winter months, were named as the varieties usually eaten (Table 16).

All but two subjects said that fruits were "good for you." Of those who thought fruit was healthful, four could not explain. Six related the value of fruit to personal tastes, explaining, "I like it." Six said that fruit contained vitamins and another mentioned "vitamins and protein." Two were more specific: "You get your vitamin C," and "They contain vitamin C." Two noted that fruits help prevent constipation. Other explanations included: "It's better than candy." "They're good because they're fresh." "They're good if you're hungry." "They give you energy." "My doctor told me so."

Fruit juice.--Fruit juices other than those already mentioned were consumed at least daily by about a third of the mothers (Table 15). Five women never drank them.

The popularity of pineapple was suggested when this juice or blends containing it were mentioned by a third of the mothers as varieties used often (Table 16).

All subjects agreed that fruit juice was "good for you." Nine explained that juices contained vitamins. Two said that juices gave them strength and energy. Three believed that juices made them "feel better." Two others simply explained, "I like it." Other explanations included: "They help fight colds." "They're better than soda." "Juice has minerals." "They settle my stomach." "They have a different taste."

Cereals and Breads

Certain varieties of cereals and breads were consumed as frequently as three times daily, while others were never eaten (Table 17).

The women also indicated one or two varieties of each type of bread or cereal as those which they consumed most often (Table 18).

Cereals.--Three mothers ate dry cereals as often as once daily, while eleven never ate them. Cooked cereals were more commonly used, consumption ranging from once daily, reported by ten mothers, to "never," reported by eight (Table 17).

Cornflakes were the variety of dry cereal used most often, an interesting fact in that corn is the Indian's traditional cereal grain (23). Trix, also a

TABLE 17

FREQUENCY OF CONSUMPTION OF CEREALS AND BREADS

Food Item	Frequency of Consumption N=35						
	Three Times Daily	Twice Daily	Once Daily	Three or Four Times Weekly	Once or Twice Weekly	One to Three Times Monthly	Never
Dry cereals	0	0	3	2	13	6	11
Cooked cereals	0	0	10	5	10	4	8
Sweet breads	0	0	10	11	10	3	1
Crackers	0	0	2	3	19	5	6
Bread	6	16	12	0	0	0	1
Tortillas	7	14	7	0	2	1	4

TABLE 18

MAJOR VARIETIES OF CEREALS AND BREADS EATEN

Food Item	Number of Times Mentioned
Dry cereals:	
Cornflakes	19
Trix	3
Cooked cereals:	
Oatmeal	17
Cream of wheat	12
Sweet breads:	
Mexican pan dulce	20
Doughnuts	8
Soda crackers, plain	22
Bread, bakery, sliced	24
Tortillas, flour	28

corn-containing cereal, was a second one named (Table 18). Another common food including this grain was corn tortillas. One of the mothers mentioned serving atole, a sweet, chocolate-flavored cornmeal gruel, at the previous night's dinner; and tamales (though not mentioned by any of the mothers in their menus) also contain cornmeal.

Oatmeal and Cream of Wheat were the cooked cereals most commonly used.

When asked whether the dry cereals were "good for you," three women expressed reservations. One thought they were "not filling" and two simply explained that "hot [cereal] is better." Others agreed that dry cereals were "good for you," though nine could not explain why. Two said that they contained protein, and two, vitamins. Another noted that they gave one the "daily minimum requirement" of vitamins. Two said they were valuable because of the milk added to them. Other explanations included: "They're good for strength." "They help you gain weight." "They're good when you're hungry." "They give you muscles."

Cooked cereals apparently were considered more healthful than the dry varieties. All of the women believed that hot cereal was "good for you." Again, two noted the supplement of the milk added. Two said that hot cereal contained "vitamins and protein." Two mothers mentioned "energy" and one of them added, "and vitamins." Satiety value seemed important to four who explained: "You're not hungry later on." "It gets you full." "It fills you up more." "It can carry you through the morning." Three said that hot cereal was "nourishing," and three thought it was especially good "in cold weather."

Bread and tortillas.--Consumption of bread ranged from three times daily, reported by six mothers, to "never," reported by one. Tortillas were used with about the same frequency, their consumption ranging from three times daily, reported by seven subjects, to "never," reported by four (Table 17). The twenty-four hour menus had revealed that bread was eaten by most subjects at breakfast and by some of them at lunch, while tortillas were usually served at supper. All of the subjects consumed either tortillas or bread with some frequency.

All of the mothers made their own flour tortillas but purchased corn tortillas from one of the local Mexican bakeries.

When asked whether bread and tortillas were "good for you," two women said they did not know. "But we can't eat without them," one added. Twenty-seven others said that they were healthful. Three could not explain their value. Four said that these breads contained vitamins and one of them explained in detail: "In Quaker Masa Harina, you get calcium, riboflavin, thiamine--a lot of vitamins and minerals in one ounce. It says so on the back." Another said the breads contained vitamins and iron, and one thought they contained protein. Other subjects offered explanations not related to nutrient content ("We like them").

Of the six who thought bread and tortillas were not "good for you," two said that they were too "heavy."

One explained, "We should learn to eat with a fork and leave bread alone." Three mothers said they were "fattening." Another explained, "If I eat three tortillas, I don't feel well."

Sweet breads and crackers.--Either crackers or sweet breads, including the Mexican pan dulce, were consumed daily by about one-third of the mothers. Six never ate crackers, but only one never ate the sweet breads (Table 17).

As the type of sweet bread or rolls eaten most often, twenty mothers named pan dulce, a Mexican yeast bread of slightly sweet flavor which was sold throughout the neighborhoods by Mexican bakery trucks. Only one mother made her own pan dulce. Doughnuts and cinnamon rolls were other breads named, while the only type of crackers mentioned was plain soda crackers (Table 18).

When asked whether sweet breads were "good for you," ten mothers said they did not know. Six thought they were healthful, but could not explain. One said they contained vitamins and another explained, "They have eggs, milk, and vitamins."

Seventeen mothers believed that sweet breads were not "good for you." Six associated tooth decay with eating sweet breads. Three said they caused weight gain, and two thought they spoiled the appetite. Four expressed the idea that sweet breads contained nothing of value, were "just sweet." Two believed that they caused diabetes. The mothers seemed to ascribe such harmful effects to the sweeter cinnamon rolls and doughnuts, rather than to the pan dulce.

Milk and Cheese

Consumption of milk and cheese ranged in frequency from four times daily to "never" (Table 19).

The mothers also suggested varieties of milk and cheese which they consumed most often (Table 20).

Milk.--Interestingly, a large group of ten mothers who drank a glass of milk once daily was matched by an equal number who never drank milk. The fact that two-thirds of the women consumed less than one glass of milk daily was consistent with the low consumption of milk evident in the twenty-four hour menus.

Fresh whole milk was the variety used by all but three who consumed any milk (Table 20). The one woman using skim milk did so for weight control.

All of the mothers agreed that milk was "good for you." Five suggested no reason. Five said that it was good for "teeth and bones," and ten believed it contained

TABLE 19

FREQUENCY OF CONSUMPTION OF MILK AND CHEESE

Food Item	Frequency of Consumption N=35							
	Four Times Daily	Three Times Daily	Twice Daily	Once Daily	Three or Four Times Weekly	Once or Twice Weekly	One to Three Times Monthly	Never
Milk	1	1	1	10	5	7	0	10
Cheese	0	0	0	6	9	16	3	1

TABLE 20

MAJOR VARIETIES OF MILK AND CHEESE CONSUMED

Food Item	Number of Times Mentioned
Milk	
Fresh whole milk	22
Dried skim milk	1
Chocolate milk	1
Raw milk	1
Cheese	
American cheddar	19
Cottage	8
Monterrey Jack	5

vitamins. Two explained that milk provided calcium, and one mentioned protein. Satiety value was important to one who said, "Milk never gets me hungry." Others suggested reasons not related to nutrient content, such as "It's something instead of coffee."

Cheese.--Consumption of cheese was more frequent than indicated in the twenty-four hour menus. While six women reported eating it once daily, another twenty-five had it from one to four times weekly (Table 19).

American cheddar cheese was the variety most commonly used, though several mentioned cottage cheese (Table 20).

Meats, Fish, and Poultry

Consumption of certain varieties of meats was as frequent as twice daily, while others were never consumed (Table 21).

TABLE 21

FREQUENCY OF CONSUMPTION OF MEATS, FISH, AND POULTRY

Food Item	Frequency of Consumption N=35					
	Twice Daily	Once Daily	Three or Four Times Weekly	Once or Twice Weekly	One to Three Times Monthly	Never
Smoked ham, bacon or sausage	0	3	4	26	0	2
Luncheon meats	0	0	0	5	7	23
Chicken	0	0	2	30	3	0
Fish	0	0	0	5	8	22
Organic meats liver, kidney, tripe	0	0	1	16	13	5
Other meats	1	15	6	12	1	0

The women named various kinds of meats, fish, and poultry as those consumed most often (Table 22).

Smoked meats.--Consumption of smoked ham, bacon and sausage ranged in frequency from once daily, reported by three subjects, to "never," reported by two (Table 21).

TABLE 22

MAJOR VARIETIES OF MEATS, FISH, AND POULTRY EATEN

Food Item	Number of Times Mentioned
Smoked meats	
Bacon	10
Ham	4
Sausage	3
Luncheon meats	
Bologna	20
Weiners	10
Spiced ham	4
Organic meats	
Liver	16
Tripe	9
Kidney	6
Other meats	
"Hamburger"	17
Pork chops or steaks	9
Beefsteak	7
Chicken	
Fryers	20
Fish	
Canned tuna	5
Fresh fish	3

Bacon was named as the variety of smoked meats used most often (Table 22).

All except four mothers agreed that ham, bacon, and sausage were "good for you." Ten could not explain why. Five, apparently recognizing common qualities of the meat group, explained, "It's meat." One said that these contained iron; one, protein, and one, vitamins. Another explained, "They have fat, and you need a little."

Of the four who thought that ham, bacon and sausage were not "good for you," two explained that these were pork. One said they contained "too much lard," and one confessed, "I'm too fat."

Luncheon meats.--The most frequent consumption of cold cuts or luncheon meats was reported by four mothers who had a serving three or four times weekly. Two-thirds of the women never ate them (Table 21).

Bologna, mentioned by twenty subjects as the type consumed most often, was easily the most popular type (Table 22).

All except five mothers believed that luncheon meats were "good for you." Thirteen could not explain. Four replied that they were good because they saved time. Four, perhaps recognizing the like qualities of the meat group, said these were good "because they're meat."

One of the four who believed that luncheon meats were not "good for you" explained, "I use them only when I'm lazy." Others noted that they "don't get you full" and "they're not warm." One could not explain why they were not good.

Organic meats.--Consumption of the organic meats ranged from three or four times weekly, reported by one woman, to "never," reported by five (Table 21).

Liver and tripe were the types used most often (Table 22). Also mentioned were several other varieties (Kidney, brains, heart, and beef intestines). All who used tripe prepared it as chile menudo, a traditional Mexican "stew" using hominy.

When asked whether they thought that liver was "good for you," all subjects agreed that it was. Eleven could not explain. Seven said that it contained iron; and five, vitamins. Four said that liver was "for the blood," and two said it helped the eyesight. The investigator considered it remarkable that nineteen subjects could correctly state a nutrient, group of nutrients, or a specific function to explain the value of liver. The reports of frequent consumption indicated that many Mexican-American families used this low-cost meat.

Other meats.--Consumption of other meats such as ground beef, roasts, and chops, ranged from twice daily, reported by one subject, to one to three times monthly, reported by one (Table 21).

"Hamburger" was named as the variety eaten most often (Table 22). A tendency toward "one-dish meals" was apparent, with eleven mothers describing how they fried the ground meat, then combined it with one or more vegetables including potatoes, onions, tomato sauce, celery, carrots, peas and corn. "I have lots of ways to camouflage hamburger," one explained. Such reports were consistent with Mann's statement that soups and stews are common Mexican-American dishes (24). Pork and pork steaks were also mentioned often, another finding in agreement with Mann's statement that "Pork, beef, and chicken are common" (24:1).

When asked whether such meats were "good for you," all subjects agreed that they were. Nine could not explain why. Four said that meat contained vitamins; three, iron, and one protein. Others gave general explanations, such as "It's good for you" or "The body needs it."

Fish.--Consumption of fish was not great. Five subjects said that they had it once or twice weekly, the greatest frequency reported. Twenty-two never ate fish (Table 21).

The type of fish most commonly used was canned tuna, used in sandwiches or tuna salad (Table 22).

All but one of the subjects thought that fish was "good for you." Fourteen could give no reason. One said that fish contained vitamins and one, protein. Another believed it was healthful because of "fish oils" and one thought that fish contained iodine. The one mother who believed that fish was not "good for you" explained, "They don't pack it right."

Chicken.--Family menus frequently included chicken. The two families who consumed it most often reported having a serving of chicken three or four times weekly, and only three families had it less often than once weekly. A group of thirty women reported having it once or twice weekly (Table 21).

Fryers were the type of chicken used most often (Table 22). These were both fried and used in chicken soup. Again, Mann's statement regarding common use of soups and stews (24) was recalled in twelve mothers' description of homemade soup containing chicken, rice, and vegetables such as onions, potatoes, celery, and carrots.

All of the women agreed that chicken was "good for you," though fourteen could not explain. Two said that chicken contained vitamins and one mentioned protein. Another commented, "It's good for low-cholesterol diets." Two mothers explained that "chicken was part of the meat," apparently recognizing nutrients shared by meats and chicken. Other reasons not related to nutrient content were suggested.

Dried Beans, Eggs, and Nuts

Other high-protein foods such as dried beans, eggs, and nuts were consumed as frequently as twice daily by some mothers. Others never ate them (Table 23).

TABLE 23

FREQUENCY OF CONSUMPTION OF DRIED BEANS, EGGS, AND NUTS

Food Item	Frequency of Consumption N=35					
	Twice Daily	Once Daily	Three or Four Times Weekly	Once or Twice Weekly	One to Three Times Monthly	Never
Nuts (including peanut butter)	0	0	0	5	7	23
Dried beans	7	19	4	4	1	0
Eggs (one egg equals one serving)	2	13	11	4	0	5

The mothers indicated several most common varieties or methods of preparation of dried beans, eggs, and nuts (Table 24).

Dried beans.--The frequency with which dried beans were used in the Mexican-American diet was expressed by two subjects. One declared, "I never knew a Mexican who could live without them!" Another agreed, "We can't stay away from them." Such statements seemed not too exagerated in that twenty-six of the women reported having beans once daily or oftener. All the families consumed them with some frequency (Table 23).

Pinto beans were the variety used by all families, and these most often were fried (Table 24).

TABLE 24

MAJOR VARIETIES OF DRIED BEANS, EGGS, AND NUTS EATEN

Food Item	Number of Times Mentioned
Beans	
Pinto, refried	30
Chile beans (pinto)	4
Pinto beans, plain, boiled	2
Eggs	
Fried	20
Boiled	10
Scrambled	8
Nuts	
Peanut butter	12
Walnuts	10

All but four subjects agreed that beans were "good for you." Eight could not explain why they were good. Seven said that beans contained iron and one mentioned "vitamins and iron." One believed they contained "vitamins and starch" and another named just "vitamins."

Two said they contained protein. Other reasons not related to nutrient value included, "We can afford them."

Of the four who thought beans were not "good for you," two said they contained "too much starch." One thought they had "a lot of gas" and another said she was "too fat already."

Eggs.--Consumption of eggs ranged from twice daily, reported by two women, to "never," reported by five. Over twenty-six mothers had an egg three times weekly or oftener, a finding consistent with Mann's statement that "Eggs are well liked" (24:1) and Lantz' report that her Spanish-American subjects consumed more eggs than the Anglos (25).

Frying was the most popular means of preparation (Table 22), perhaps another example of Mann's statement that "meals . . . contain enough fat to satisfy hunger" (24:2).

All of the mothers agreed that eggs were "good for you," though eleven could not explain why. Eight said that eggs contained vitamins and one mentioned that eggs were good for vision. Another thought they contained protein, and two said they provided calcium. Others gave varying reasons.

Nuts.--The mothers' consumption of nuts was not great, in spite of the walnut trees owned by five families. The most frequent consumption was once or twice weekly, reported by five families. Two-thirds of the mothers never ate any type of nuts (Table 23).

Peanut butter was the variety which a third of the mothers used most often, and five of them volunteered that the children consumed "most of the peanut butter" (Table 24).

Twenty-two subjects believed that nuts and peanut butter were "good for you." Ten could not explain. Three said that these contained protein; three, iron, and two, vitamins. Two thought they provided necessary oil. Others offered vague explanations such as "because they're healthy."

Butter, Margarine and other Fats

Margarine was the spread used by twenty-eight mothers. Four used butter, and two used both. One family used neither.

When asked how they used the butter or margarine, nineteen said they used it "on bread" or toast, and, surprisingly, eight also mentioned using it "in mashed potatoes." Six said they spread tortillas with it, and seven mentioned using it on cooked vegetables.

Twenty-three mothers thought that butter and margarine were "good for you." Five could not explain. Five said that the spreads contained vitamins; one, protein, and one, "fat." Two said they were good because they were fattening, and two explained that these were "dairy products."

Of the twelve who did not believe that butter and margarine were "good for you," four could not explain. Eight suggested that these were "fattening" or caused weight gain.

When subjects were asked whether one spread was "better for you than the other," sixteen said that butter was superior. Three explained that it was "richer," and one said it contained more cream. Two said that butter was more pure, and one explained, "It's straight." Two believed it contained more vitamins.

Of the five subjects who thought margarine was the better, three explained that it contained less fat, and one of these added, "It's lower in your polyunsaturates." Two said that margarine was "not as fattening." One simply preferred a particular brand of margarine.

Seven saw no difference in value of the spreads, and seven had no opinion.

Lard was the fat which twenty mothers generally used for preparing their refried beans and other entrees. Fifteen also mentioned the frequent use of oil, usually in salads.

Rice and Pastes

Frequent use of rice, macaroni, spaghetti, and other pastes was indicated. Five subjects had rice daily and a large group of fifteen ate it three or four times weekly. Twelve had it once or twice weekly, and three, less than once weekly.

Macaroni, spaghetti, and other pastes were used daily by four subjects. Ten had one of these three or four times weekly; eighteen, once or twice weekly; and three, less than once weekly.

The popular method of preparation for rice, macaroni or spaghetti was to brown the dry material in a skillet, and then add tomato, onion, and chiles. The apparent popularity of rice and macaroni dishes is consistent with Mann's statement that rice and macaroni dishes are common foods (24).

Cakes, Pies, Candies, Soft Drinks and Sugar

Frequent use of "sweets" was indicated when the mothers reported their use of cakes, pies, candies, soft drinks, and plain sugar (Table 25).

TABLE 25

FREQUENCY OF CONSUMPTION OF CAKES, PIES, CANDIES, SOFT DRINKS, AND SUGAR

Food Item	Frequency of Consumption N=35					
	Twice Daily	Once Daily	Three or Four Times Weekly	Once or Twice Weekly	One to Four Times Monthly	Never
Cakes and pies	0	3	8	17	4	3
Candies	0	10	3	9	5	8
Soft drinks	2	11	3	12	5	2
Sugar	35	0	0	0	0	0

About a third of the mothers had cake, pie, or a similar pastry three or four times weekly, or oftener. One-third of them had candy this frequently, and ten of these ate candy daily. Likewise, one-third had a soft drink at least once daily. Sugar "from the sugar bowl" was used in a variety of ways, including the sweetening of cereals, coffee, tea, and Kool-Aid. Such findings were not in agreement with Mann's report of the "limited use of desserts" by her subjects (24:3), or Lantz' statement of relatively low "consumption of sweets, especially candy and soft drinks" by the Spanish-Americans (25:144).

The naming of major varieties eaten revealed the popularity of chocolate in desserts and candies (Table 26).

TABLE 26

MAJOR VARIETIES OF CAKES, PIES, CANDIES, AND SOFT DRINKS CONSUMED

Food Item	Number of Times Mentioned
Cakes and pies	
Chocolate cake	15
Pies, fruit	10
Empanadas	3
Soft drinks	
Cola-type	10
Lemon-lime	3
Candy	
Chocolate or Hersheys	15

When asked whether cakes, pies, and other pastries were "good for you," five mothers said they did not know. Sixteen thought that these were healthful. "You need sugar in your body," one explained. Four others mentioned the value of various ingredients in candy--milk, flour, eggs, and butter. Another said that candy provided protein. The "yes" answer was qualified by three who added, "but not too much," "in a way," and "it's all right for kids." Fourteen said that pies and cakes were not "good for you," and six explained in terms of "sweets" or "sugar." Two said they caused cavities, and two remarked that they were fattening.

Four of the women did not know whether or not candy was "good for you." Eleven thought that it was healthful, though four qualified this with "not too much." One explained that "you need it" and another said a craving for candy meant "your blood level is low." The various ingredients in candy apparently were noted by one who said, "It has milk in it." Another thought candy provided protein. Nineteen mothers thought candy was not "good for you." Considerable awareness of dental problems was indicated when ten explained that candy was bad "for the teeth." Three simply said this was "too much sweet" and another thought candy was fattening. One said she was allergic, and one attributed "skin rash" to candy.

Nine did not know whether or not carbonated beverages ("soda") were "good for you." Only five thought they were healthful, and one of them qualified this, "but not too much." One said they were "refreshing," another believed they were "good for the stomach," and one said they provided vitamins and protein. Twenty-one did not think "sodas" were "good for you." Four explained that they had "too much acid," two said they provided "too much gas," and two said they contained "too much sugar." Two believed they were bad "for the blood," and one mentioned "the teeth."

When asked whether sugar was "good for you," seventeen agreed that it was. Three of these apparently appreciated the necessity of a dietary supply of carbohydrates, explaining "you need sugar," "you have to have it in your system," and "you're supposed to have a little in your body." Sugar's energy value was mentioned by two ("You need it for going.") Two said that sugar contained vitamins; two referred to personal taste. Eight women did not know whether or not sugar was "good for you." Ten believed it was not "good." Individual explanations included: "It causes diabetes." "It's bad for the teeth." "It makes white spots on the skin." "The doctor told me." One believed there was danger of "too much sugar in the system," and a stern warning was added by one who said, "It can get in your blood."

It seemed significant that about half of the mothers disapproved of such high-carbohydrate foods as pastries, carbonated beverages, candy, and sugar. Apparently this group consumed a large amount of such foods in spite of their convictions.

An examination of all explanations offered for why various foods were or were not "good for you" reveals that many of the Mexican-American mothers could at times explain their positions by correctly citing nutrient content or specific functions, while, at other times, demonstrating food misinformation and suggesting what might be Mexican folk beliefs. Results recall Clark's statement that "No medical system . . . is entirely rational, and none is entirely irrational" (38:1).

Daily Dietary Essentials

The mother next was asked to suggest the kinds of food required daily by herself, by a pregnant woman, by a lactating woman, and by a child. Responses were evaluated according to the number of Basic Four food groups mentioned (Table 27).

Three women said they did not know what kinds of food they required and could suggest no dietary essentials in pregnancy, lactation, or childhood. Fourteen others attempted to name foods required by themselves, by a pregnant woman, and by a child, but said they did not know any requirements during lactation. Four explained that they had never nursed their children. Apparently, such mothers lacked an understanding of the dietary requirements shared by all persons.

TABLE 27

FOOD GROUPS NAMED AS DAILY ESSENTIALS

Food Group	N=35 Number of Times Mentioned for Self	Pregnancy	Lactation	Child
Milk	22	22	18	23
Fruits and vegetables				
Vitamin A-rich	5	5	3	5
Vitamin C-rich	6	8	4	6
Other	30	26	16	23
Meats	31	27	18	23
Breads and cereals	14	11	7	11

Only six mothers named one of the dark green leafy vegetables or deep yellow fruits and vegetables, listed as "vitamin A-rich" in the table.

Only nine women named a citrus fruit, tomatoes, or other vitamin C-rich food. None mentioned the common Mexican-American foods listed by Mann (24:11) as good and fair sources of vitamin C (i.e., chile peppers, guavas, cactus leaves, potatoes, cabbage, cactus fruit, or zapotes).

The thirty-two subjects who suggested any dietary requirements all mentioned "fruits" or "vegetables" or individual items from these groups. This suggested their appreciation of the general contributions of fruits and vegetables in the diet.

Some food from the meat group was mentioned by all but one of the thirty-two women who named any daily food requirements, though fifteen suggested only one serving daily for themselves. Eggs were mentioned specifically by sixteen mothers, and dried beans, by five subjects. In view of the frequent consumption of beans suggested in the twenty-four hour menus, it seemed surprising that so few mentioned them among the essential foods.

Fourteen of the thirty-two subjects who named any required foods failed to mention a food from the bread-cereal group. This seemed inconsistent with the high consumption of such foods indicated in the twenty-four hour menus. Failure to appreciate the merits of the breads and cereals was, nevertheless, in agreement with Cornely's report that "the bread-cereal group was seldom selected as healthful" by his low-income subjects (33:135).

There seemed fairly good understanding of the value of milk which was included by about two-thirds of the mothers among their own requirements.

In general, then, the mothers demonstrated: (1) good understanding of the general merits of fruits and vegetables, though little awareness of the vitamin A and vitamin C-rich varieties; (2) good recognition of the value of the meat group; (3) fair appreciation of the value of the milk group, and (4) little awareness of the value of the bread-cereal group. Findings indicate a need for nutrition education aimed at clarifying the importance of the Basic Four food groups.

Folk Beliefs and Food Misinformation

"Eating for two."--Following the questions concerning dietary essentials for the pregnant woman, the mothers were asked whether a pregnant woman should "eat for two." Seven said they did not know. Those who agreed with the statement and those who disagreed were about equal in number.

Of the fifteen who did not believe a pregnant woman should "eat for two," ten explained that this would mean weight gain for the mother, commenting: "You'll have left-over fat," and "I got all the weight." One took the extreme view that "You should eat less!--just protein and all that." Other explanations included: "There's no such thing as eating for two." "It can cause birth trouble." "It's good for the baby, but not the mother." "It's bad to eat so much."

Of the twelve who agreed that a pregnant woman should "eat for two," three qualified their statements by saying she should eat more of certain things--vegetables, fruits, milk, and meats. Three explained that there were two individuals to be nourished at this time ("We're two inside.") Three recalled their own experiences ("I ate for three!") and others offered no explanation.

While one investigator has reported the tendency of those in the lower social class to associate overweight with health, (13) almost half of these women rejected the idea of "eating for two." The mention of weight gain by ten mothers suggested that their understanding might reflect the teaching of medical personnel at local prenatal clinics.

"Hot and cold."--The mothers were asked whether they had "ever heard of 'hot and cold' foods," the concept described by Clark (38), Madsen (39), and others. None of the mothers indicated any knowledge of this system. Nine apparently thought that the terms referred only to temperature and would ask, "You mean like soup and sandwiches?" One started to explain how the combination of coffee and ice cream hurt her teeth. Twenty simply answered, "No" or "I've never heard of it."

Six seemed confused by the question and would ask, "What do you mean?" When the interviewer rephrased the question, asking, "Is it important to keep a balance of hot and cold foods in the diet?" the women still were unable to explain.

It was pertinent, perhaps, that only seven mothers and seven fathers were born in Mexico. Findings indicate that "hot and cold" is not a concept with which Hanford's Mexican-Americans are familiar.

"Harmful" foods.--The questions regarding types of food which the mother considered "harmful" to herself, to a pregnant or lactating woman, and to a child were intended to reveal other folk beliefs and food misinformation. A tabulation revealed the interesting fact that chile peppers, dried beans, and pork--all common items in the mothers' diets--were most frequently named as "harmful" (Table 28).

Explanations for the "harmful" effects of chile peppers included: "They give the baby a sick stomach." "They do something to the new-born." "Cause ulcers." "The seeds get into the appendix." "They give the baby colic."

The "harmful" effects of dried beans included "cause gas" and "make the baby sick."

Pork was "harmful" because "It made me sick" and "It builds up grease in the system." A third woman believed it was "harmful if it's not cooked right."

TABLE 28

FOODS SUGGESTED AS "HARMFUL"

Food Item	Person to Whom Food Is "Harmful"				Number of Times Mentioned N=35
	Mother	Pregnant Woman	Lactating Woman	Child	
Chile peppers	x				2
		x			4
			x		3
Dried beans	x				2
		x			3
Pork		x			1
	x				2
"Sweets"		x			1
				x	1
Carbonated Beverages		x			1
			x		1
				x	1
"Starchy" foods			x		1
		x			1
Apples, raw	x				1
Fish, fresh	x				1
Milk		x			1
Meat, raw	x				1
Bologna				x	1
Salt		x			1
Sugar		x			1
"Greasy food"		x			1
Chocolate			x		1
Spicy foods				x	1
Beets	x				1
Almonds				x	1
Rice, fried		x			1
Avocado			x		1

The reports recalled Cornely's Negro subjects who "emphasized pork as a harmful food" (33:135).

The "harmful" effects of carbonated beverages were explained as follows: "They're hard on the kidneys." "They're too sweet." "It's too acid for the baby."

The mothers who named pork and chile peppers as foods "harmful" during pregnancy and lactation were in agreement with Clark's subjects who believed "a pregnant woman shouldn't eat very hot foods, such as a lot of chiles" and were "firm in their belief that certain foods, [including hot chiles, pickles, vinegar, tomatoes, spinach, pork of all kinds, beans, and most fruits,] should be avoided during the postpartum period, lest the health of either the mother or the nursing infant be affected" (38:127). One Hanford mother believed that avocado was "harmful" during lactation and explained, "It poisons the milk."

The mothers' tendency to make common use of foods which many named as "harmful" again recalls Clark's comments regarding inconsistencies in all medical systems (38).

The Basic Four Daily Food Guide

When the mothers were asked whether they had ever heard of the Basic Four food groups, only two indicated that they had; but when shown the Spanish language pamphlet, "Una Guia para Comer Bien," six thought they had seen such a display somewhere---"maybe in magazines." The twenty-five mothers who could read Spanish then examined the pamphlet; or, in the case of the ten who could not read Spanish, listened as the interviewer read through it. All of them indicated that they were able to understand the plan, but when asked if this would be a practical guide to their own meal planning, twelve complained that it would be too expensive. Eight said they could not afford two servings of meat daily, and four suggested that the recommended servings of fruits and vegetables group would be too expensive. Such an attitude regarding the cost of fruits and vegetables raised the question of whether these foods provided too little satiety value to be "worth the money," in the mothers' estimation.

The mothers' failure to recognize the term "Basic Four" and readily to recognize the printed description of it suggests that nutrition education programs, however widespread they may seem, fail to reach large numbers of this nationality group.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Thirty-five Mexican-American mothers whose children attended the Child Day-Care Center, Hanford, California, were interviewed at home to determine their family characteristics, food practices, and nutritional beliefs.

Socioeconomic characteristics included low monthly incomes, all falling within the Office of Economic Opportunity poverty guidelines; and low levels of education for parents. Both parents were present in all but four homes, and five was the average number of children per family. In a third of the families, one of the parents was born in Mexico. About half of the fathers were farm laborers.

Twenty-one mothers shopped at supermarkets, paying cash. One bought all groceries on credit at a neighborhood store, and the others combined cash and credit buying at both supermarkets and neighborhood stores. Advanced planning of meals was not the rule, the majority deciding menus "just before" starting preparation.

Approximately half of the families produced some type of food at home, and a third preserved some food by canning.

The most common problems in feeding the family concerned family appetites, refusal of food, and lack of money, though half the mothers reported having no great problem.

Thirteen mothers reported observing changes in their children's eating habits as a result of training at the Day-Care Center, suggesting that the preschool child indeed reacts to the meal service and nutrition education of such programs.

Home entertaining appeared to be minimal, with thirteen mothers reporting that they "almost never" had guests in the home. Family members were the most frequent visitors. Refreshments generally consisted of a sweet bread and beverage, such as coffee and punch.

When the mothers' twenty-four hour menus were classified into the Basic Four food groups, a summary evaluation revealed the menus to be deficient in milk and fruits and vegetables, including both the vitamin A-rich and vitamin C-rich varieties. Servings from the meat group were sufficient in number, though beans accounted for a sizeable percentage of the total. Breads and cereals were used liberally, the menus including an average of eight servings daily.

The mothers' classification of foods as healthful or unhealthful and accompanying explanations recalled Clark's statement that "no medical system . . . is entirely rational, and none is entirely irrational" (38:1). The women sometimes were able to explain the healthful qualities of foods in terms of general classes of nutrients (i.e., vitamins, minerals) or even in terms of specific nutrients such as vitamin C, iron and calcium. Interspersed with such evaluations, however, were fallacious statements of food functions recalling Mexican folk beliefs.

When asked to name the daily dietary essentials for themselves, for the pregnant woman or lactating woman, and for a child, foods from the meat and milk groups were mentioned most often. One or more servings from "other vegetables and fruits" were also frequently mentioned, though few subjects mentioned a vitamin A-rich or vitamin C-rich variety. Seldom mentioned were foods from the breads and cereals group.

The mothers' adjustment in her daily requirements to meet the needs of pregnancy and lactation was often a general increase in all food groups. There appeared to be little appreciation of the adjustments necessary for increased protein requirements in pregnancy and lactation.

Similarly, few mothers suggested increasing the protein-rich foods to meet the child's requirements.

Only two mothers had ever heard of the Basic Four food groups. Six others recalled having seen a similar plan when shown the Spanish-language pamphlet, "Una Guia para Comer Bien." Twenty-five were able to read the Spanish version, and all agreed that the plan was easy to understand. When asked whether this might be a practical guide to planning their own family meals, twelve mothers said it would be possible to follow--except for the money problem.

In the study, it appeared that most of the Mexican-American mothers in Hanford showed food practices similar to those of the families in Los Angeles (24), though certain characteristics such as a high consumption of "sweets" seemed to be unique and characteristic of the population in Hanford.

Therefore, it should be concluded that the findings of the study could be used effectively in planning a nutrition improvement program for a migrant group such as this. The knowledge of nutritional beliefs and food practices of the group studied assists in clarifying the failure of several health and nutrition programs pertaining directly to this type of population.

The persons responsible for the program should thoroughly comprehend this significance. However, further investigations should be made among similar migrant farm families of other communities to obtain clearer insight into their nutrition practices and problems. The need for any kind of nutritional assistance should be based upon the recognition of numerous influential factors underlying the nutritional practices as indicated in this study.

LIST OF REFERENCES

(1) HUNT, ROCKWELL D.: New California the Golden. Sacramento: California State Department of Education, 1937.

(2) BURAL, DAL (Superintendent, Kingsburg Joint Union Elementary School District): Personal communication, 1968.

(3) REYES, RAMIRO: School Days Come for the Migrant Child. California Teachers Association Journal 64:14, 1968.

(4) CALIFORNIA OFFICE OF ECONOMIC OPPORTUNITY: California Migrant Master Plan. Sacramento: California State Printing Office, 1966.

(5) GOVERNOR'S ADVISORY COMMITTEE ON CHILDREN AND YOUTH: Reports and Recommendations--Fourth Annual Conference on Families Who Follow the Crops. Sacramento: California State Printing Office, 1964.

(6) MERRILL, MALCOLM H.: The Economic and Social Situation of Migrant Farm Families in the United States. California's Health 17:9, 1959.

(7) SOLIS, FAUSTINA: Domestic Seasonal Agricultural Workers in California. Social Work Papers, University of Southern California, 1964.

(8) WILLIAMS, HARRISON A.: The Migratory Farm Worker. Mimeographed material, United States Senate, 1966.

(9) Health Conditions and Services in California for Domestic Seasonal Agricultural Workers and Their Families. California's Health 18:113, 1961.

(10) SCHAFER, JAMES K., HARTING, DONALD, AND JOHNSTON, HELEN L.: Health Needs of Seasonal Farmworkers and Their Families. Public Health Reports 76:469, 1961.

(11) WEBSTER, JERALD (Director, Kings County Community Action Organization): Personal communication, 1968.

(12) WHISLER, LOIS: A Study of Family Values Between and Within Four Groups. Unpublished Master's thesis, San Jose State College, 1964.

(13) HAVIGHURST, ROBERT J. AND NEUGARTEN, BERNICE: Society and Education. Rockway, N. J.: Allyn and Bacon, Inc., 1962.

(14) OFFICE OF ECONOMIC OPPORTUNITY: Nutrition Guidelines for Project Head Start. Washington, D.C.: Government Printing Office, 1965.

(15) COMMITTEE ON PHILOSOPHY AND OBJECTIVES OF HOME ECONOMICS: Home Economics: New Direction. Washington, D.C.: American Home Economics Association, 1959.

(16) KINGS COUNTY ECONOMIC DEVELOPMENT COMMISSION: A Special Report on Kings County. Mimeographed material, 1966.

(17) LIVINGSTON, LAWRENCE: Report on the North Kings County Area General Plan. North Kings County Area Planning Commission, 1957.

(18) POLEHN, CULLEY (Planning Director, City of Hanford): Personal communication, 1967.

(19) UNITED STATES BUREAU OF THE CENSUS: United States Census of Housing. Washington, D.C.: Government Printing Office, 1960.

(20) ALLEN, PAUL (Director, Kings County Department of Public Welfare): Personal communication, 1967.

(21) PRESTON, THOMAS (Kings County Director of Public Health): Personal communication, 1968.

(22) PRICE, BARBARA (Child Development Services Director, Kings County Community Action Organization): Personal communication, 1967.

(23) HELLER, CHRISTINE A.: The Spanish-Americans of New Mexico and Arizona. Annals of the American Academy of Political and Social Science 225:49, 1943.

(24) MANN, VIRGINIA: Food Practices of the Mexican-American in Los Angeles County. Los Angeles County Health Department, 1966.

(25) LANTZ, EDITH M. AND WOOD, PATRICIA: Nutrition of New Mexican Spanish-Americans and Anglo Adolescents. Part I: Food Habits and Nutrient Intakes. Journal of the American Dietetic Association 34:138, 1958.

(26) LANTZ, EDITH M. AND WOOD, PATRICIA: Nutrition of New Mexican Spanish-Americans and Anglo Adolescents. Part II: Blood Findings, Height and Weight Data, and Physical Condition. Journal of the American Dietetic Association 34:145, 1958.

(27) MORGAN, AGNES FAY, Editor: Nutritional Status, U.S.A. California Agricultural Experiment Station Bulletin 769, 1959.

(28) DELGADO, GRACIELA, BRUMBACK, C. L. AND DEAVER, MARY BRICE: Eating Patterns among Migrant Families. Public Health Reports 76:349, 1961.

(29) HOOTMAN, ROSALIE HOLDER, HASCHKE, MARILYN B., RODERUCK, CHARLOTTE AND EPPRIGHT, ERCEL S.: Diet Practices and Physical Development of Iowa Children from Low Income Families. Journal of the American Home Economics Association 59:41, 1967.

(30) HAMPTON, MARY C., HUENEMANN, RUTH L., SHAPIRO, LEONA R., AND MITCHELL, BARBARA W.: Caloric and Nutrient Intakes of Teen-Agers. Journal of the American Dietetic Association 50:385, 1967.

(31) Food for Fitness. A Daily Food Guide. United States Department of Agriculture Leaflet 424, 1958.

(32) DIERKS, E. CAROL AND MORSE, LURA M.: Food Habits and Nutrient Intakes of Preschool Children. Journal of the American Dietetic Association 47:292, 1965.

(33) CORNELY, PAUL B., BIGMAN, STANLEY K., AND WATTS, DOROTHY D.: Nutritional Beliefs among a Low Income Urban Population. Journal of the American Dietetic Association 42:131, 1961.

(34) MORSE, ELLEN H., CLAYTON, MARY M., AND COSGROVE, LOLA DE G.: Mothers' Nutrition Knowledge. Journal of Home Economics 59:667, 1967.

(35) SAUNDERS, LYLE: Cultural Differences and Medical Care. Russel Sage Foundation, 1954.

(36) HUMPHREY, NORMAN D.: Some Dietary and Health Practices of Detroit Mexican-Americans. Journal of American Folklore 58:258, 1945.

(37) ROMANO, OCTAVIO IGNACIO: Charismatic Medicine, Folk Healing and Folk Sainthood. American Anthropology 67:1151, 1965.

(38) CLARK, MARGARET: Health in the Mexican-American Culture. Berkeley: University of California Press, 1959.

(39) MADSEN, WILLIAM: Hot and Cold in the Universe of San Francisco Tecospa Valley of Mexico. Journal of American Folklore 68:123, 1955.

(40) LEE, TSUN HAI, AND HILDEBRAND, GLENN: Good Health for Farm Workers. Highlights, Spring volume: 1, 1963.

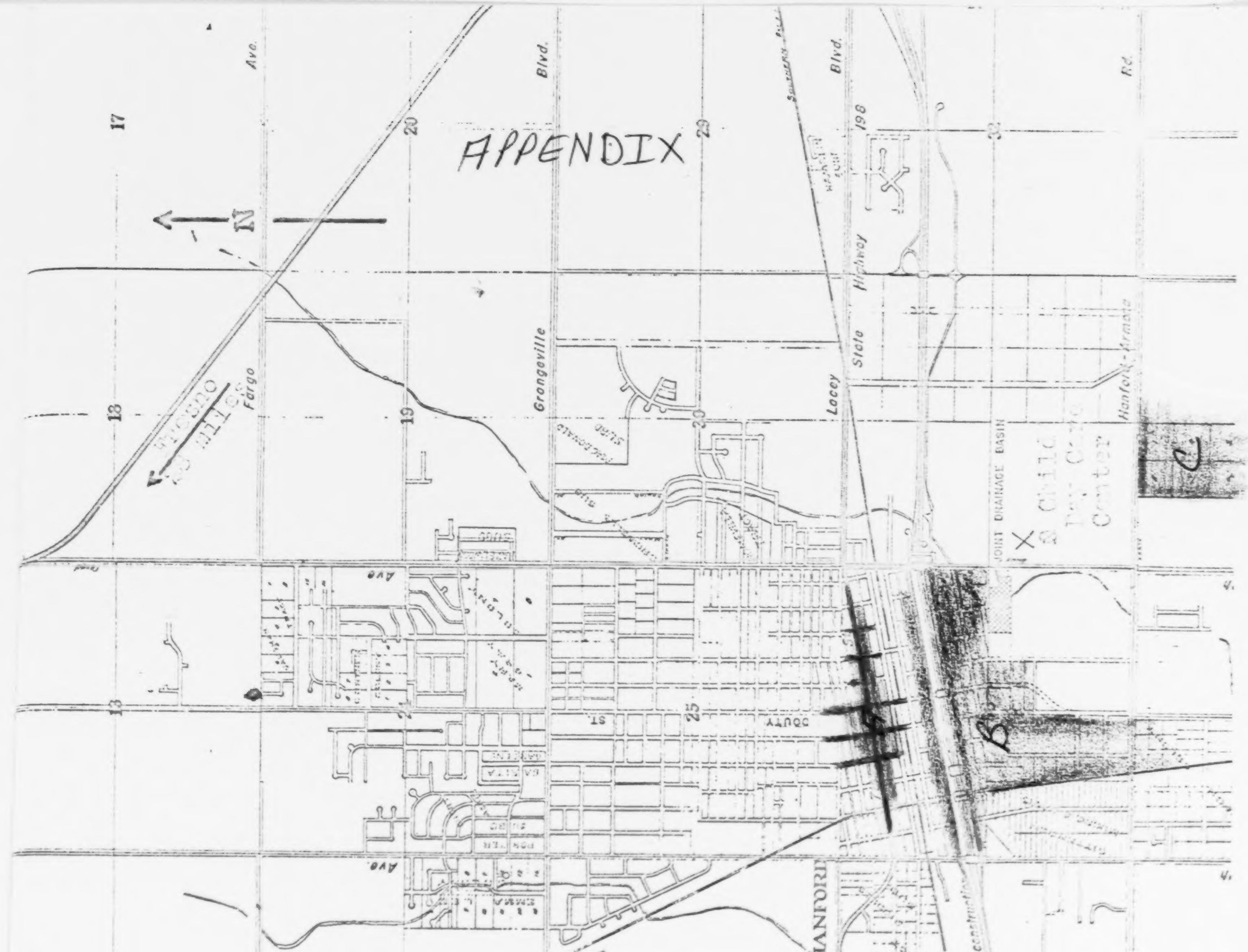
(41) JESSUP, R. BRUCE: Health for Migrants. California's Health 17:177, 1960.

(42) BOWDEN, SHIRLEY S.: Nutritional Beliefs of Mexican-American Mothers. (Unpublished independent study, Department of Home Economics, Fresno State College, 1967).

(43) BURKE, BERTHA S.: The Dietary History as a Tool in Research. Journal of the American Dietetic Association 23:1041, 1947.

(44) NATIONAL DAIRY COUNCIL: Una Guia para Comer Bien. 1967.

APPENDIX


N
Fresno 33 miles
Fargo Ave.
Grangeville Blvd.
Lacey Blvd.
State Highway 198
Hanford-Armona Rd.
HANFORD
County Hospital
Joint Drainage Basin
X Child Day Care Center
Freeway
17
20
29
32
18
19
13
25
14
23
26
15
22
27
34
16
21
28
KEY:
A Business District
Mexican-American Colonies:
B South Hanford Area
C Home Garden Tract
A
B
C

OFFICE OF ECONOMIC OPPORTUNITY
POVERTY GUIDELINES

ANNUAL INCOMES

Family Size	Non-Farm Families	Farm Families (Those which grow the major portion of their own food supply)
1	$1,600	$1,100
2	2,000	1,400
3	2,500	1,700
4	3,200	2,200
5	3,800	2,600
6	4,200	3,000
7	4,700	3,300
8	5,300	3,700
9	5,800	4,000
10	6,300	4,400
11	6,800	4,700
12	7,300	5,100
13	7,800	5,400

QUESTIONNAIRE

I. CHARACTERISTICS OF THE POPULATION

A. Father's name ____________________ Age __________
(Nombre del padre) (Edad)

Mother's name ____________________ Age __________
(Nombre de la madre) (Edad)

B. Address ____________________
(Dirección)

C. Marital status
(Estado civil)

married (casada) ( )
single (soltera) ( )
divorced (divorciada) ( )
separated (separada) ( )
widowed (viuda) ( )

D. Father's occupation ______ Mother's occupation ______
(Ocupación del padre) (Ocupación de la madre)

E. Father's place of birth ___ Mother's place of birth ___
(Lugar de nacimiento del padre) (Lugar de nacimiento de la madre)

F. Father's citizenship ______ Mother's citizenship ______
(Ciudadanía del padre) (Ciudadanía de la madre)

G. Father's years of residence in U.S.A. __________
(Años de residencia que tiene el padre en Los Estados Unidos)

H. Mother's years of residence in U.S.A. __________
(Años de residencia que tiene la madre en Los Estados Unidos)

Father's education ________ Mother's education ______
(¿Hasta qué grado asistió el padre a la escuela?) (¿Hasta qué grado asistió la madre a la escuela?)

I. Children at home: Married children:
(¿Cuántos hijos viven en la casa?) (¿Cuántos hijos casados tiene?)

Name (Nombre)	Age (Edad)	Name (Nombre)	Age (Edad)

Number of children no longer living__________
(Cuántos niños se han muerto?)

J. Average weekly earnings $__________
(¿Cuánto ganan Uds. semanalmente?)

II. GROCERY BUYING AND MENU PLANNING

A. Who does the grocery shopping?__________
(¿Quién compra los alimentos de la casa?)

B. Where do you buy groceries?__________
(¿Dónde compra los alimentos?)

C. Do you buy groceries on credit or pay cash?__________
(¿Compra Ud. los alimentos a crédito o al contado?)

D. How many trips to the grocery store do you make weekly?__________
(¿Cuántas veces va Ud. al mercado semanalmente?)

E. When do you decide what you are going to have for each meal? (Write menus, think of it just before a meal, have children decide, what?)__________
(¿Cuándo decide Ud. lo que va a cocinar?
¿Escribe Ud. el menú? ¿Lo piensa Ud. momentos antes?
¿Permite Ud. que los niños decidan?)
If written menus: How many days in advance do you write them?__________
(Si escribe el menú, ¿cuántos días antes lo hace?)

F. How much do you spend weekly for food? $__________
(¿Cuánto gastan Uds. en alimentos semanalmente?)

G. What do you consider to be your biggest problem in feeding your family?__________
(¿Cuál es el mayor problema que Ud. tiene en alimentar a su familia?)

H. How often do you have guests in your home? What do you usually serve them?________________
(¿Cuántas veces recibe visitas?) (¿Qué les sirve?)

III. HOME FOOD PRODUCTION AND PRESERVATION

A. Do you produce any of your own food (raise meat animals, grow fruits or vegetables, keep laying hens, etc.?) What kind?
(¿Siembra Ud. vegetales y frutas, o cría animales que le sirvan para su propia alimentación? ¿Qué clases?)

____

B. Do you freeze, can, or dry any food? What kinds?
(¿Puede Ud. congelar, embotellar o secar algunos alimentos en casa? ¿Qué clases?)

____

IV. INFLUENCE OF CHILD DAY-CARE CENTER TRAINING

A. Did the training at the Child Day-Care Center change your child's eating habits?
In what way?
(¿Cambió el adiestramiento que recibió su hijo en el Centro de Cuidados los hábitos de comer de su hijo? ¿Cómo?)

____

B. Did the rest of the family change their eating habits as a result of your association with the Center? In what way?
(¿Cambió el resto de la familia los hábitos de comer por el contacto que tuvieron con el Centro? ¿Cómo?)

V. MOTHER'S 24-HOUR RECALL OF HER DIET
See Spanish translation on following page.

Interviewer: I would like you to tell me about everything you ate and drank from the time you got up in the morning until the time you went to bed at night. Be sure to mention everything you ate or drank at home, at work, or other places. Include snacks and drinks of all kinds. I also need to know where you ate the food. But now let us begin with:

WHAT TIME DID YOU GET UP YESTERDAY?

WAS IT THE USUAL TIME?

WHAT WAS THE FIRST TIME YOU ATE OR HAD ANYTHING TO DRINK YESTERDAY MORNING? (List below)

WHERE DID YOU EAT? (List below)

NOW TELL ME WHAT YOU HAD TO EAT AND HOW MUCH.

WHEN DID YOU EAT AGAIN? (List below)

IS THERE ANYTHING ELSE?

	FOOD	AMOUNT	WHERE EATEN	TIME
Breakfast:				
Between breakfast and lunch:				
Lunch:				
Between lunch and dinner:				
Dinner:				
Between dinner and bedtime:				

WAS THIS DAY UNUSUAL IN ANY WAY? If yes: WHY? IN WHAT WAY?

WHAT TIME DID YOU GO TO BED LAS NIGHT?

DO YOU TAKE ANY VITAMIN OR MINERAL PILLS? WHAT KIND? WHAT AMOUNT?

V. EL MENU DE 24 HORAS

¿Le gustaría decirme todo lo que Ud. come y toma desde que se levanta por la mañana hasta que se acuesta? No olvide mencionar todo cuanto come y toma incluyendo las meriendas. También quisiera saber el lugar donde come Ud.

Mi primera pregunta será:

¿A qué hora se levantó Ud. ayer?

¿Esa es la hora acostumbrada?

¿Qué fue lo primero que comió o tomó Ud. ayer?

¿Dónde come Ud.?

Ahora, dígame que comió Ud. y que cantidad durante el resto del día.

	ALIMENTO	CANTIDAD	DONDE COME	QUE HORA
Desayuno				
Entre desayuno y almuerzo				
Almuerzo				
Entre almuerzo y la cena				
Cena				
Antes de acostarse				

¿Comió Ud. ese día más de lo que acostumbra comer? ¿Por qué?

¿A qué hora se acostó Ud. anoche?

¿Toma Ud. algunas tabletas de vitaminas o minerales? ¿Qué clase? ¿Cuántas?

VI. THE DIETARY QUESTIONNAIRE

1. How many times a week do you eat breakfast? _____
lunch? _____
dinner? _____

(¿Cuántas veces a la semana desayuna? __________
almuerza? __________
come cena? __________

2. How many times a day do you have a snack between
breakfast and lunch? ______
lunch and dinner? ______
dinner and bedtime? ______

(¿Cuántas veces al día merienda Ud. entre
desayuno y almuerzo? ______
almuerzo y cena? ______
cena y antes de acostarse?) ______

3. Do you ever eat fruit (canned, dried, frozen, or fresh?)
(¿Come Ud. las frutas frescas, enlatadas, secas o congeladas?)

If yes: How often do you eat it daily or weekly?
(¿Cuántas veces las come?)

What kind do you eat most often?
(¿Qué clase come Ud. más frecuentemente?)

Do you think that fruit is good for you? Why?
(¿Cree Ud. que las frutas son buenos alimentos? ¿Por qué?)

4. Do you ever drink fruit juice?
(¿Toma Ud. jugo de frutas?)

If yes: How often do you drink it daily or weekly?
(¿Cuántas veces lo toma?)

What kind do you drink most often?
(¿Qué clase toma Ud. más frecuentemente?)

Do you think that fruit juice is good for you? Why?
(¿Cree Ud. que el jugo de frutas es un buen alimento? ¿Por qué?)

5. If yes to 3 or 4: Do these fruits and juices ever include oranges, grapefruit, or tomatoes? (En los jugos o las frutas, ¿incluye Ud. las frutas cítricas o tomates?)

   If yes: How often do you have oranges? grapefruit? tomatoes? (¿Cuántas veces come naranjas? ¿Toronjas? ¿Tomates?)

   Do you think that oranges, grapefruit and tomatoes are good for you? (¿Cree Ud. que las frutas cítricas y tomates son buenos alimentos? ¿Por qué?)

6. Do you ever eat dry cereal (cornflakes, Rice Krispies, etc.)? (¿Come Ud. los cereales como cornflakes, Rice Krispies, etc.?)

   If yes: How often do you have them daily or weekly? (¿Cuántas veces los toma?)

   What kind do you have most often? (¿Qué clase come Ud. más frecuentemente?)

   Do you think that dry cereals are good for you? Why? (¿Cree Ud. que los cereales son buenos alimentos? ¿Por qué?)

7. Do you even eat cooked cereal? (¿Come Ud. la avena?)

   If yes: How often do you have it weekly? (¿Cuántas veces la come?)

   What kind do you have most often? (¿Qué clase come Ud. más frecuentemente?)

   Do you think that cooked cereal is good for you? Why? (¿Cree Ud. que la avena es un buen alimento? ¿Por qué?)

8. Do you ever have meat such as ham or bacon for breakfast?
(¿Come Ud. carne como jamón o tocino para el desayuno?)

If yes: How often do you have it weekly?
(¿Cuántas veces lo come?)

What kind do you have most often?
(¿Qué clase come Ud. más frecuentemente?)

Do you think that meats such as ham and bacon are good for you? Why?
(¿Cree Ud. que la carne como el jamón y el tocino son buenos alimentos? ¿Por qué?)

9. Do you ever eat eggs?
(¿Come Ud. los huevos?)

If yes: How many do you eat weekly?
(¿Cuántos huevos come semanalmente?)

Do you think that eggs are good for you? Why?
(¿Cree Ud. que el huevo es un buen alimento? ¿Por qué?)

10. Do you ever drink milk (or chocolate milk, skim milk or buttermilk)?
(¿Toma Ud. leche, o leche con chocolate, leche descremada o leche agria?)

If yes: How many glasses do you drink daily or weekly?
(¿Cuántos vasos de leche toma Ud. diariamente o semanalmente?)

What kind do you have most often?
(¿Qué clase toma más frecuentemente?)

Do you think that milk is good for you? Why?
(¿Cree Ud. que la leche es un buen alimento? ¿Por qué?)

11. Do you ever eat sweet rolls, doughnuts, or crackers?
(¿Come Ud. el pan dulce, donas o galletas?)

If yes: How often do you have sweet rolls or doughnuts? crackers?
(¿Cuántas veces come el pan dulce, donas o galletas?)

Do you think that sweet rolls, doughnuts or crackers are good for you? Why?
(¿Cree Ud. que el pan dulce, donas o galletas son buenos alimentos? ¿Por qué?)

12. Do you ever eat tortillas or bread? Which one?
(¿Come Ud. tortillas o pan? ¿Cuál?)

If yes: How many tortillas do you eat daily? How many slices of bread?
(¿Cuántas tortillas come Ud. diariamente? ¿Cuántas rebanadas de pan?)

Do you think that tortillas and bread are good for you? Why?
(¿Cree Ud. que las tortillas y el pan son buenos alimentos? ¿Por qué?)

13. Do you ever eat "cold cuts" such as salami or bologna or other meats for lunch?
(¿Come Ud. el salchichón, la mortadella, u otras carnes para el almuerzo? ¿Qué clases?)

If yes: How often do you have them?
(¿Cuántas veces las come?)

What kind do you have most often?
(¿Qué clase come Ud. más frecuentemente?)

Do you think that "cold cuts" such as salami or bologna are good for you? Why?
(¿Cree Ud. que el salchichón o la mortadella son buenos alimentos? ¿Por qué?)

14. Do you ever have soup?
(¿Come Ud. las sopas?)

If yes: How often do you have it?
(¿Cuántas veces las come?)

What kind do you have most often? Do you buy canned soup or make your own? How do you make it?
(¿Qué clase come más frecuentemente? ¿Compra las sopas enlatadas o las hace Ud. misma? ¿Cómo las prepara?)

Do you think soups are good for you? Why?
(¿Cree Ud. que las sopas son buenos alimentos? ¿Por qué?)

15. Do you ever eat cheese?
(¿Come Ud. el queso?)

If yes: How often do you eat it?
(¿Cuántas veces lo come?)

What kind do you have most often?
(¿Qué clase come más frecuentemente?)

Do you think that cheese is good for you? Why?
(¿Cree Ud. que el queso es un buen alimento? ¿Por qué?)

16. Do you eat meat for your evening meal?
(¿Come Ud. la carne para la cena?)

If yes: How many times do you have meat for dinner weekly?
(¿Cuántas veces la come semanalmente?)

What kind do you have most often? How do you prepare it?
(¿Qué clase come más frecuentemente? ¿Cómo la prepara?)

Do you think that meat is good for you? Why?
(¿Cree Ud. que la carne es un buen alimento? ¿Por qué?)

17. Do you ever include liver or other variety meats such as kidney, tongue, brains, tripe, or beef intestines?

(¿Incluye Ud. el hígado, el riñón, la lengua, los sesos, la pancita o las tripas?)

If yes: Which ones do you have most often? How do you prepare them?
(¿Cuáles come más frecuentemente? ¿Cómo los prepara?)

Do you think that liver is good for you? Why?
(¿Cree Ud. que el hígado es un buen alimento? ¿Por qué?)

18. Do you ever eat fish?
(¿Come Ud. el pescado?)

If yes: How often do you have it?
(¿Cuántas veces lo come?)

What kind do you have most often?
(¿Qué clase come más frecuentemente? ¿Cómo lo prepara?)

Do you think that fish is good for you? Why?
(¿Cree Ud. que el pescado es un buen alimento? ¿Por qué?)

19. Do you ever eat chicken?
(¿Come Ud. el pollo?)

If yes: How often do you have it? How do you prepare it?
(¿Cuántas veces lo come? ¿Cómo lo prepara?)

Do you think that chicken is good for you? Why?
(¿Cree Ud. que el pollo es un buen alimento? ¿Por qué?)

20. Do you ever eat potatoes?
(¿Come Ud. las papas?)

If yes: How often do you have them? How do you prepare them?
(¿Cuántas veces las come? ¿Cómo las prepara?)

Do you think that potatoes are good for you?
Why?
(¿Cree Ud. que la papa es un buen alimento?
¿Por qué?)

21. Do you ever eat chiles?
(¿Come Ud. chiles?)

If yes: How often do you have them?
How do you prepare them?
(¿Cuántas veces los come?
¿Cómo los prepara?)

Do you think that chiles are good for you?
Why?
(¿Cree Ud. que el chile es un buen alimento?
¿Por qué?)

22. Do you ever eat the dark green leafy vegetables (like spinach) or the dark yellow fruits and vegetables (like carrots or apricots?)
(¿Come Ud. las hojas verdes como espinaca, o las frutas y vegetales amarillos como las zanahorias y chavacanes?)

If yes: How often do you have one of these?
(¿Cuántas veces come uno de esos?)

Which ones do you have most often?
(¿Cuáles come más frecuentemente?)

Do you think that the dark-green leafy vegetables or the dark yellow fruits and vegetables are good for you? Why?
(¿Cree Ud. que las hojas verdes o las frutas y los vegetales amarillos son buenos alimentos? ¿Por qué?)

23. Do you ever eat other cooked vegetables?
Raw vegetables or salads?
(¿Come Ud. otros vegetales cocidos?
¿Vegetales crudos o ensaladas?)

If yes: How often do you cook one of the other vegetables?
How often do you have one of the other vegetables?

(¿Cuántas veces come otros vegetales cocidos?
¿Vegetales crudos o ensaladas?)

How do you usually cook your vegetables?
(¿Cómo los prepara?)

Do you think the other vegetables, either raw or cooked, are good for you? Why?
(¿Cree Ud. que los otros vegetales son buenos alimentos? ¿Por qué?)

24. Do you ever eat dried beans?
(¿Come Ud. los frijoles secos?)

If yes: How often do you have them?
How do you prepare them?
(¿Cuántas veces los come?
¿Cómo los prepara?)

Do you think that dried beans are good for you? Why?
(¿Cree Ud. que los frijoles secos son buenos alimentos? ¿Por qué?)

25. Do you ever eat rice, macaroni, spaghetti, or noodles?
(¿Come Ud. el arroz o las pastas?)

If yes: Which ones? How often do you have them? How do you prepare them?
(¿Cuáles? ¿Cuántas veces los come?
¿Cómo los prepara?)

Do you think that rice, macaroni, spaghetti or noodles are good for you? Why?
(¿Cree Ud. que el arroz o las pastas son buenos alimentos? ¿Por qué?)

26. Do you ever eat nuts or peanut butter?
(¿Come Ud. las nueces o crema de cacahuate?)

If yes: How often do you have them?
What kind?
(¿Cuántas veces las come?
¿Qué clase?)

Do you think that nuts or peanut butter are good for you? Why?
(¿Cree Ud. que las nueces o crema de cacahuate son buenos alimentos? ¿Por qué?)

27. Do you eat ice cream, custards or puddings made with milk?
(¿Come Ud. helados, flanes, pudines o arroz con leche?)

If yes: Which ones? How often do you have them?
(¿Qué clase? ¿Cuántas veces los come?)

Do you think that ice cream, custards and puddings are good for you? Why?
(¿Cree Ud. que los helados, los flanes y el arroz con leche son buenos alimentos? ¿Por qué?)

28. Do you ever eat cake, pie, or other pastries?
(¿Come Ud. los pasteles, empanadas u otros postres?)

If yes: Which ones? How often do you have them?
(¿Cuáles? ¿Cuántas veces los come?)

Do you think that cakes, pies and other pastries are good for you? Why?
(¿Cree Ud. que los pasteles, las empanadas y otros postres son buenos alimentos? ¿Por qué?)

29. Do you use sugar?
(¿Come Ud. el azúcar?)

If yes: How many teaspoons do you use daily?
(¿Cuántas cucharadas diariamente?)

Do you think that sugar is good for you? Why?
(¿Cree Ud. que el azúcar es un buen alimento? ¿Por qué?)

30. Do you ever eat candy?
(¿Come Ud. los dulces?)

If yes: What kind? How often do you eat it?
(¿Qué clase? ¿Cuántas veces los come?)

Do you think that candy is good for you? Why?
(¿Cree Ud. que los dulces son buenos alimentos? ¿Por qué?)

31. Do you ever drink Coca-Cola or other soda pop?
(¿Toma Ud. Coca-Cola y otros refrescos?)

If yes: What kind? How often do you have it?
(¿Qué clase? ¿Cuántas veces lo toma?)

Do you think that Coca-Cola and other soda pop is good for you? Why?
(¿Cree Ud. que Coca-Cola y otros refrescos son buenos para Ud.? ¿Por qué?)

32. Do you drink tea or coffee?
(¿Toma Ud. el café o el té?)

If yes: Which one? How much do you drink?
(¿Cuál? ¿Cuánto?)

Do you think that tea and coffee are good for you? Why?
(¿Cree Ud. que el café o té son buenos para Ud.? ¿Por qué?)

33. Do you ever drink beer, wine, or other alcoholic beverages?
(¿Toma Ud. la cerveza, el vino, u otras bebidas alcohólicas?)

If yes: What kind? How often do you have it?
(¿Qué clase? ¿Cuántas veces lo toma?)

Do you think that beer, wine, and other alcoholic beverages are good for you? Why?
(¿Cree Ud. que la cerveza, el vino, y otras bebidas alcohólicas son buenos para Ud.? ¿Por qué?)

VII. DAILY DIETARY ESSENTIALS

A. Mother's Diet

1. What kinds of food do you need everyday for good health?
   (¿Qué alimentos necesita comer la madre diariamente para la buena salud?)

   a. For specific items named: Are there other foods which can be substituted for this?
      (¿Hay algunos alimentos que pueden ser sustituídos por éstos?)

   b. How many servings of this do you need daily?
      (¿Cuántas veces necesita Ud. comer diariamente de este grupo de alimentos?)

2. Are there foods which are harmful to you? Which ones? Why?
   (¿Hay alimentos que son dañinos para Ud.? ¿Cuáles? ¿Por qué?)

B. Diet in Pregnancy

1. If you were pregnant, would you need these same foods daily?
   (Interviewer repeats foods named in A, above)
   (Si Ud. estuviera encinta, ¿necesitaría los mismos alimentos?)

   a. Of what foods would you need larger amounts? Smaller amounts?
      (¿Qué clases de alimentos necesitaría comer más? ¿Qué clases de alimentos necesitaría comer menos?)

   b. Would you need any new, different foods?
      (¿Necesitaría Ud. alimentos diferentes?)

2. Are there foods which are harmful to a pregnant woman? Which ones? Why? (¿Cree Ud. que hay algunos alimentos dañinos para las mujeres encinta? ¿Cuáles? ¿Por qué?)

    a. Have you ever heard of "hot" and "cold" foods? How is this important? Can you name some "hot" and "cold" foods? (¿Ha oído Ud. hablar alguna vez de alimentos calientes y alimentos fríos? ¿Por qué son éstos importantes? ¿Puede nombrar Ud. algunos de los alimentos calientes y fríos que Ud. conoce?)

    b. Should a pregnant woman "eat for two"? Why? (¿Cree Ud. que una mujer encinta debe comer por dos?)

C. Diet in Lactation

1. If you were nursing a baby, would you need the same foods which you said you need daily? (Si Ud. estuviera criando un bebé, ¿necesitaría Ud. los mismos alimentos que necesita ahora?)

    a. Of which foods would you need to eat more? Eat less? (¿Qué clase de alimentos necesitaría comer más? ¿Menos?)

    b. Would you need any new, different foods? What kind? (¿Necesitaría Ud. alimentos diferentes? ¿Cuáles?)

2. Are there foods which are harmful to a nursing mother? What are they? Why? (¿Hay algunos alimentos dañinos para la madre que está criando un bebé? ¿Cuáles? ¿Por qué?)

C. Diet in Childhood

1. Does your child need the same foods which you need daily?
(¿Cree Ud. que el niño necesita los mismos alimentos que Ud. necesita?)

    a. Of which foods would he need more? Less?
    (¿Qué clases de alimentos necesita comer él en mayor cantidad?
    ¿En menor cantidad?)

    b. Does your child need any other, different foods daily? What kind?
    (¿Necesita el niño alimentos diferentes?
    ¿Cuáles?

2. Are there foods which are harmful to a child? What are they? Why?
(¿Conoce Ud. algunos alimentos dañinos para el niño? ¿Cuáles? ¿Por qué?)

VIII. THE BASIC FOUR DAILY FOOD GUIDE

A. Have you ever heard of the "Basic Four" food groups?
(¿Ha oído Ud. hablar de los "Cuatro Grupos Básicos" de alimentos?)

B. What does "Basic Four" mean?
(¿Qué significa esto?)

C. Have you ever seen this pamphlet, "Una Guia para Comer Bien"?
(¿Ha visto el panfleto "Una Guia para Comer Bien"?)

D. Have you seen the same plan written in English in newspapers or magazines?
(¿Ha visto estos mismos alimentos escritos en inglés en los periódicos o las revistas?)

E. Would you be able to read and understand this? Is it too difficult? Can you make use of it in planning your meals? Is it too expensive?

(¿Cree Ud. que podrá leer y entender esta guía de alimentos cuando estos sean escritos en inglés o español? ¿Es demasiado difícil? ¿Podría Ud. usarlo para planear sus comidas? ¿Es demasiado caro?